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OVERHAUL/REBUILD COST STUDY -  
WECOM ITEMS

Patrick J. Gannon, et al

Army Weapons Command  
Rock Island, Illinois

November 1972

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WEGOM ITEMS**



**TECHNICAL REPORT**

Patrick J. Gannon  
Wade W. Hartmann  
R. Stephen Dorsey

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**NOVEMBER 1972**

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ROCK ISLAND, ILLINOIS**

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|---|--------|----|--------|----|--------|----|
|   | ROLE   | WT | ROLE   | WT | ROLE   | WT |
| Types of Maintenance<br>Overhaul/Rebuild Data<br>Depot Labor Rates<br>Cost Estimating Relationships |        |    |        |    |        |    |
| <u>II</u>   |        |    |        |    |        |    |

OVERHAUL/REBUILD COST STUDY

WECOM ITEMS

Prepared by  
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COST ANALYSIS DIVISION  
(AMSWE-CPE)  
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III

## ABSTRACT

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1. Artillery
2. Combat vehicles
3. Fire control
4. Small arms

IV

## TABLE OF CONTENTS

|  | <u>Page</u> |
|--|-------------|
| Introduction   | 1           |
| Scope of Study   | 2           |
| Overhaul Cost Estimating Procedures  | 3           |
| Section I - CONUS and Foreign Depot Overhaul/Rebuild Labor Rates   | 5           |
| Section II - Major Item Overhaul Data  | 7           |
| 1. CONUS Depot Overhaul  | 8           |
| 2. OCONUS Depot Overhaul   | 22          |
| Section III - Cost Estimating Relationships  | 23          |
| Cal .30 Rifles   | 26          |
| Revolvers and Pistols  | 28          |
| Machine Guns   | 29          |
| Recoilless Rifles  | 30          |
| Mortars  | 32          |
| Recoil Mechanisms  | 34          |
| Towed Howitzers  | 36          |
| Self-Propelled Howitzers   | 38          |
| Straight Telescopes  | 40          |
| Elbow Telescopes   | 42          |
| Tank Periscopes  | 44          |
| Sights   | 46          |
| Tanks  | 48          |
| Appendix A - Definitions   | 49          |
| Appendix B - Average Annual Unit Cost to Overhaul (excluding unfunded parts cost) by Major Item in FY 73 Dollars | 50          |
| 1. CONUS Depot Overhaul  | 51          |
| 2. OCONUS Depot Overhaul   | 66          |
| Appendix C - Inflation/Price Escalation Indices  | 67          |

## INTRODUCTION

This study was performed by the Cost Analysis Division, Headquarters, U.S. Army Weapons Command and was written to be useful for personnel knowledgeable in depot maintenance activities but also comprehensive to personnel not normally associated with depot maintenance. It covers the major end items for which WECOM has management responsibility plus a few items recently transferred to TACOM and represents a revised update of previous efforts in the depot overhaul area. The original study was done in November 1968 and an update of the original study was completed in July 1970. This study has as its primary purpose the further development and refinement of overhaul cost estimating methodology with a secondary purpose to develop a rebuild/overhaul cost data base on major items currently in the Army inventory.

Actual rebuild/overhaul costs were made available through annual Program Status Reports (PSR's) obtained from the Army Major Item Data Agency. Consideration has been given to periodic changes in fiscal codes as presented in AR 37-100-XX over the time frame for which data were collected. Data in this study are predicated only upon WAC Code A1 which is Depot Cyclic/Normal Overhaul/Rebuild defined in Appendix A.

## SCOPE OF STUDY

The purpose of this study is to provide a sound basis for estimating overhaul/rebuild costs for WECOM items. Historical CONUS and OCONUS depot overhaul/rebuild depot cost data on each major item are summarized. Also, cost estimating relationships (CER's) are provided with which the CONUS depot overhaul/rebuild cost of items not previously overhauled can be estimated.

## OVERHAUL COST ESTIMATING PROCEDURES

### I. Major Items Previously Overhauled.

The following equation is to be used to estimate the unit total cost of overhaul in FY 73 dollars for a major item listed in Section II.

$$\text{ESTIMATE UNIT OVERHAUL COST} = \text{MH} \cdot (\text{TOTAL HOURLY RATE}) + \text{FP} + \text{UP}$$

Where MH: manhours based on manhour experience provided in Section II.

TOTAL HOURLY RATE: sum of the direct, indirect and G&A rates in FY 73 dollars displayed by depot and major item group in Section I.

FP: funded parts cost based on the historical weighted average funded parts cost in FY 73 dollars presented in Section II.

UP: unfunded parts cost based on the historical weighted average unfunded parts cost in FY 73 dollars presented in Section II.

#### EXAMPLE:

M105 Articulated Telescope FSN 1240-764-1667

It is assumed:

1. Manhours to overhaul will equal the historical weighted average of past experience presented in Section II.
2. Overhaul will take place at Letterkenny Depot.
3. Funded parts cost will be 25% less than the historical weighted average funded parts cost presented in Section II.
4. No unfunded parts cost.

$$\begin{aligned} \text{UNIT OVERHAUL COST} &= (18.34) \cdot (11.95) + (.75) \cdot (54.91) + 0 \\ &= 219.16 + 41.18 \\ &= \$260.34 \end{aligned}$$

Manhour and parts cost data presented in Section II can be adjusted based on facts known by the estimator. For example, a lot of items requiring overhaul may be in such extremely poor condition that the parts cost presented in Section II is insufficient. Also three point overhaul/rebuild estimates can be generated by varying data in Section I and/or Section II.

II. Major Items Not Previously Overhauled.

To estimate the CONUS unit funded cost of overhaul in FY 73 dollars for a major item not listed in Section II, a cost estimating relationship (CER) from Section III may be utilized. After selecting the appropriate CER the CONUS funded unit overhaul cost is estimated by substituting into the CER the required independent variable value.

Example:

Straight telescope with a standard price of \$110.

$$\begin{aligned} \text{ESTIMATED CONUS UNIT FUNDED OVERHAUL COST} &= 36.698 + 0.289 \cdot (110) \\ &= \$68.49 \end{aligned}$$

SECTION I

DEPOT OVERHAUL/REBUILD LABOR RATES

The chart on the following page represents the reported FY 73 labor rates of the CONUS and OCONUS depots. The rates have been varying due to economic conditions and also due to the labor grade mix required to complete the varying conditions of each overhaul workload.

FY 73 DEPOT LABOR AND INDIRECT CHARGES PER HOUR

|                           | TOWED<br>ARTILLERY |            |      |       | TRACKED<br>COMBAT VEHICLES |            |      |       | FIRE<br>CONTROL |            |      |        |
|---------------------------|--------------------|------------|------|-------|----------------------------|------------|------|-------|-----------------|------------|------|--------|
|                           | Dir<br>Lab         | Ind<br>Lab | G&A  | Total | Dir<br>Lab                 | Ind<br>Lab | G&A  | Total | Dir<br>Lab      | Ind<br>Lab | G&A  | Total  |
| <u>CONUS DEPOTS</u>       |                    |            |      |       |                            |            |      |       |                 |            |      |        |
| Anniston                  | 6.19               | 4.46       | 1.27 | 11.92 | 6.20                       | 4.35       | 1.27 | 11.82 | 6.46            | 4.54       | 1.27 | 12.27  |
| Letterkeny                | 5.95               | 5.05       | 1.15 | 12.15 | 5.95                       | 5.05       | 1.15 | 12.15 | 6.15            | 4.65       | 1.15 | 11.95  |
| Pueblo                    | 6.13               | 4.46       | 1.78 | 12.37 | 6.13                       | 4.46       | 1.78 | 12.37 | 6.61            | 4.46       | 1.78 | 12.85* |
| Red River                 | 6.06               | 4.68       | 1.35 | 12.09 | 6.06                       | 4.68       | 1.35 | 12.09 | 6.28            | 4.66       | 1.35 | 12.29  |
| Tooele                    | 6.42               | 4.09       | 1.15 | 11.66 | 6.43                       | 4.26       | 1.15 | 11.84 | 6.41            | 3.98       | 1.15 | 11.54  |
| Composite                 | 6.15               | 4.55       | 1.34 | 12.04 | 6.15                       | 4.56       | 1.34 | 12.05 | 6.38            | 4.46       | 1.34 | 12.18  |
| <u>CONUS MFG ARSENALS</u> |                    |            |      |       |                            |            |      |       |                 |            |      |        |
| Rock Island               | 7.60               | 7.83       | 4.95 | 20.38 | 7.94                       | 8.18       | 5.16 | 21.28 | 6.97            | 7.18       | 4.53 | 18.68  |
| Watervliet                |                    |            |      |       |                            |            |      |       |                 |            |      |        |
| <u>OCONUS Depots</u>      |                    |            |      |       |                            |            |      |       |                 |            |      |        |
| Daimler Benz              |                    |            |      |       |                            |            |      |       |                 |            |      |        |
| Luther Werke              |                    |            |      |       |                            |            |      |       |                 |            |      |        |
| Sagami                    |                    |            |      |       |                            |            |      |       |                 |            |      |        |

\*These rates may be used for Aircraft Armament Subsystems.

FY 73 DEPOT LABOR AND INDIRECT CHARGES PER HOUR

| TRACKED<br>COMBAT VEHICLES |            |      |       | FIRE<br>CONTROL |            |      |        | SMALL<br>ARMS |            |      |        | COMPOSITE  |            |      |       |
|----------------------------|------------|------|-------|-----------------|------------|------|--------|---------------|------------|------|--------|------------|------------|------|-------|
| Dir<br>Lab                 | Ind<br>Lab | G&A  | Total | Dir<br>Lab      | Ind<br>Lab | G&A  | Total  | Dir<br>Lab    | Ind<br>Lab | G&A  | Total  | Dir<br>Lab | Ind<br>Lab | G&A  | Total |
| 6.20                       | 4.35       | 1.27 | 11.82 | 6.46            | 4.54       | 1.27 | 12.27  | 6.19          | 4.46       | 1.27 | 11.92* | 6.20       | 4.35       | 1.27 | 11.82 |
| 5.95                       | 5.05       | 1.15 | 12.15 | 6.15            | 4.65       | 1.15 | 11.95  | 6.15          | 4.65       | 1.15 | 11.95  | 6.26       | 4.73       | 1.15 | 12.14 |
| 6.13                       | 4.46       | 1.78 | 12.37 | 6.61            | 4.46       | 1.78 | 12.85* | 6.13          | 4.46       | 1.78 | 12.37  | 6.39       | 4.46       | 1.78 | 12.63 |
| 6.06                       | 4.68       | 1.35 | 12.09 | 6.28            | 4.66       | 1.35 | 12.29  | 6.28          | 4.66       | 1.35 | 12.29* | 6.06       | 4.68       | 1.35 | 12.09 |
| 6.43                       | 4.26       | 1.15 | 11.84 | 6.41            | 3.98       | 1.15 | 11.54  | 6.41          | 3.98       | 1.15 | 11.54  | 6.61       | 4.22       | 1.15 | 11.98 |
| 6.15                       | 4.56       | 1.34 | 12.05 | 6.38            | 4.46       | 1.34 | 12.18  | 6.23          | 4.44       | 1.34 | 12.01  | 6.30       | 4.49       | 1.34 | 12.13 |
| 7.94                       | 8.18       | 5.16 | 21.28 | 6.97            | 7.18       | 4.53 | 18.68  | 8.04          | 10.13      | 5.23 | 23.40  | 7.82       | 8.05       | 5.08 | 20.95 |
|                            |            |      |       |                 |            |      |        |               |            |      |        | 7.13       | 8.57       | 4.45 | 20.15 |
|                            |            |      |       |                 |            |      |        |               |            |      |        |            |            |      | 9.24  |
|                            |            |      |       |                 |            |      |        |               |            |      |        | 4.47       | 1.64       | 3.16 | 9.27  |
|                            |            |      |       |                 |            |      |        |               |            |      |        | 5.48       | .80        |      | 6.28  |

Subsystems.

## SECTION II

### MAJOR ITEM OVERHAUL DATA

This section provides the following overhaul/rebuild data by major item:

1. Historical (FY 66 - 72) weighted average 1/ funded parts 2/ cost in FY 73 dollars.
2. Historical (FY 66 - 72) weighted average unfunded parts 2/ cost in FY 73 dollars
3. Historical weighted average manhours.
4. Manhour experience range based on:
  - a. High weighted average manhour year.
  - b. Low weighted average manhour year.

The probable causes for variance in manhour experience are such factors as initial condition of item, quantity overhauled, etc. Data for major items are presented in FSN numerical sequence for both CONUS and OCONUS depot overhaul.

1/ The difference between weighted average and average is that the former puts greater emphasis on yearly quantities than does the latter.

2/ Definitions of funded and unfunded parts are presented in Appendix A.

1. CONUS Depot Overhaul

| FSN           | Nomenclature               | Unit Weighted Average |                       | Manhour Experience Range |       |
|---------------|----------------------------|-----------------------|-----------------------|--------------------------|-------|
|               |                            | Funded Parts (73\$)   | Unfunded Parts (73\$) | High                     | Low   |
| 1005-072-5011 | M14A1 Rifle 7.62 mm        | 68.46                 | 17.25                 | 3.05                     | 1.75  |
| 1005-073-9421 | M16A1 Rifle 5.56 mm        | 26.12                 | 5.67                  | 3.19                     | 3.19  |
| 1005-214-0934 | S&W Revolver Cal .38       | 1.63                  |                       | 2.32                     | 1.61  |
| 1005-317-2425 | M36 Gun Mount              | 59.28                 |                       | 14.41                    | 12.11 |
| 1005-317-2427 | M36A1 Gun Mount            | 57.71                 |                       | 13.08                    | 11.51 |
| 1005-317-2428 | M36A2 Gun Mount            | 30.81                 |                       | 19.88                    | 15.75 |
| 1005-317-2442 | M31C Pedestal Mount        | 44.83                 |                       | 6.00                     | 5.38  |
| 1005-322-9715 | M2 Machine Gun Cal .50 HB  | 56.54                 | 3.93                  | 7.67                     | 7.19  |
| 1005-322-9716 | M3 Tripod Mount            | 31.04                 |                       | 6.28                     | 4.37  |
| 1005-322-9718 | M2 Tripod Mount            | 16.53                 |                       | 3.89                     | 3.40  |
| 1005-322-9727 | M24A3 Gun Mount            | 21.88                 |                       | 4.00                     | 4.00  |
| 1005-511-9042 | M8C Spotting Rifle Cal .50 | 181.61                | 3.86                  | 5.95                     | 3.36  |
| 1005-589-1271 | M14 Rifle 7.62 mm          | 15.03                 | 2.97                  | 1.84                     | 1.34  |
| 1005-602-2105 | M2 Machine Gun Cal .50 HB  | 73.51                 |                       | 8.07                     | 7.86  |
| 1005-605-7710 | M60 Machine Gun 7.62 mm    | 74.80                 | 16.18                 | 6.42                     | 5.67  |
| 1005-606-8412 | M2 Machine Gun Cal .50     | 22.50                 |                       | 11.00                    | 4.86  |
| 1005-670-7670 | M1 Carbine Cal .30         | 2.90                  | .70                   | 1.33                     | .50   |

| FSN           | Nomenclature                 | Unit Weighted Average |                       | Manhour Experience Range |               |
|---------------|------------------------------|-----------------------|-----------------------|--------------------------|---------------|
|               |                              | Funded Parts (73\$)   | Unfunded Parts (73\$) | High                     | Low           |
|               |                              |                       |                       | Manhours                 |               |
| 1005-670-7675 | M2 Carbine Cal .30           | 20.46                 | .92                   | 1.55                     | 1.70 1.25     |
| 1005-672-1643 | M1919A4 Machine Gun Cal .30  | 84.76                 | 1.82                  | 5.26                     | 5.34 5.25     |
| 1005-672-1649 | M1919A6 Machine Gun Cal .30  | 78.68                 | 2.82                  | 6.31                     | 6.82 5.55     |
| 1005-672-1771 | M3A1 Submachine Gun Cal .45  | 5.32                  |                       | 1.71                     | 1.73 1.64     |
| 1005-673-4750 | M55 Machine Gun Mount        | 735.74                | 339.40                | 230.90                   | 266.58 205.38 |
| 1005-673-7965 | M1911A1 Pistol Cal .45       | 6.35                  | .86                   | 1.53                     | 1.88 1.28     |
| 1005-674-1309 | M1918A2 Rifle Cal .30        | 86.61                 | 1.87                  | 4.46                     | 7.47 3.70     |
| 1005-674-1425 | M1 Rifle Cal .30             | 18.10                 | 1.15                  | 1.46                     | 1.71 1.43     |
| 1005-67-1431  | USM1D Sniper's Rifle Cal .30 | 53.93                 | 4.50                  | 3.93                     | 3.97 3.63     |
| 1005-678-9828 | M14NM Rifle 7.62 mm          | 90.29                 |                       | 4.22                     | 9.12 3.11     |
| 1005-690-2790 | M85 Machine Gun              | 339.66                | 100.75                | 9.99                     | 10.01 7.50    |
| 1005-693-4854 | M2 Machine Gun Cal .50       | 79.63                 | 18.36                 | 9.11                     | 10.03 6.86    |
| 1005-704-6650 | Machine Gun Mount            | 2.45                  |                       | 4.90                     | 5.06 3.91     |
| 1005-710-5599 | M122 Tripod Mount            | 23.25                 |                       | 4.20                     | 4.37 3.19     |
| 1005-711-5031 | M49 Ring Mount               | 7.69                  |                       | 9.08                     | 10.53 9.06    |
| 1005-716-2946 | M37 Machine Gun Cal .30      | 32.42                 |                       | 7.00                     | 7.00 7.00     |
| 1005-726-5636 | M2 Machine Gun Cal .50 HB    | 45.64                 | 42.85                 | 8.44                     | 8.44 8.44     |

| FSN           | Nomenclature             | Unit Weighted Average |                       | Manhour Experience Range |       |
|---------------|--------------------------|-----------------------|-----------------------|--------------------------|-------|
|               |                          | Funded Parts (73\$)   | Unfunded Parts (73\$) | High                     | Low   |
| 1005-726-5687 | Revolver Cal .38         | 1.03                  | 4.39                  | 2.20                     | 1.81  |
| 1005-726-5786 | Revolver Cal .38         | 1.95                  |                       | 2.20                     | 1.73  |
| 1005-736-4875 | AA Mount Machine Gun     | 89.64                 | 11.54                 | 13.64                    | 10.04 |
| 1005-834-6119 | AA Mount Machine Gun     | 118.35                | 8.86                  | 9.11                     | 6.00  |
| 1005-836-7286 | Machine Gun Mount        | 10.92                 | 8.86                  | 9.45                     | 8.42  |
| 1005-840-3758 | M13 Rifle Cal .22        | 9.94                  | .08                   | 2.11                     | 1.98  |
| 1005-854-4463 | M142 Mount Machine Gun   | 2.99                  | 5.34                  | 6.62                     | 4.10  |
| 1005-869-8816 | M73 Machine Gun 7.62 mm  | 216.78                | 32.43                 | 13.82                    | 10.76 |
| 1005-890-2610 | M66 Ring Mount           | 30.10                 | 20.75                 | 20.75                    | 20.75 |
| 1005-953-9073 | M2 Armament Subsystem    | 551.66                | 140.35                | 25.27                    | 25.27 |
| 1005-957-3893 | M2 Machine Gun Cal .50   | 49.08                 | 10.39                 | 6.25                     | 6.25  |
| 1005-973-0375 | M60C Machine Gun 7.62 mm | 74.67                 | 49.78                 | 6.17                     | 4.10  |
| 1005-999-8194 | M27 Armament Subsystem   | 5498.00               | 36.55                 | 36.55                    | 36.55 |

| FSN           | Nomenclature                  | Unit Weighted Average |                       |          | Manhour Experience Range |        |
|---------------|-------------------------------|-----------------------|-----------------------|----------|--------------------------|--------|
|               |                               | Funded Parts (73\$)   | Unfunded Parts (73\$) | Manhours | High                     | Low    |
| 1010-322-9737 | M18 Recoilless Rifle 57 mm    | 57.56                 | 27.10                 | 18.90    | 18.98                    | 18.54  |
| 1010-322-9739 | M18A1 Recoilless Rifle 57 mm  | 19.50                 | 28.02                 | 19.00    | 19.32                    | 18.70  |
| 1010-673-2006 | M2 Mortar 60 mm               | 36.02                 |                       | 12.73    | 13.13                    | 12.18  |
| 1010-673-2010 | M19 Mortar 60 mm              | 21.36                 |                       | 10.17    | 13.30                    | 10.02  |
| 1010-691-1382 | M79 Grenade Launcher          | 30.74                 |                       | 4.70     | 4.70                     | 4.70   |
| 1015-073-5367 | M37 Recoil Mechanism          | 730.90                | .96                   | 90.55    | 94.29                    | 88.71  |
| 1015-086-8164 | M102 Howitzer 105 mm          | 3265.00               |                       | 184.45   | 184.45                   | 184.45 |
| 1015-079-8248 | M2A5 Recoil Mechanism         | 347.72                | .17                   | 96.23    | 108.22                   | 70.83  |
| 1015-099-8249 | M2A4 Recoil Mechanism         | 383.39                | .84                   | 92.79    | 140.66                   | 71.29  |
| 1015-133-8484 | M40A2 Recoilless Rifle 106 mm | 316.35                |                       | 47.53    | 47.53                    | 47.53  |
| 1015-322-9720 | M30 Mortar 107 mm             | 185.69                |                       | 26.35    | 33.21                    | 22.77  |
| 1015-322-9752 | M101A1 Howitzer 105 mm        | 1483.00               | 1079.00               | 252.26   | 280.67                   | 185.57 |
| 1015-348-4923 | M40A1 Recoilless Rifle        | 185.87                | 77.66                 | 47.19    | 51.36                    | 38.38  |
| 1015-505-5285 | Equilibrator                  | 307.01                |                       | 359.54   | 554.54                   | 100.34 |
| 1015-511-9124 | M47 Recoilless Rifle Mount    | 236.55                |                       | 28.20    | 28.25                    | 28.00  |
| 1015-657-7534 | M67 Recoilless Rifle 90 mm    | 25.19                 |                       | 18.24    | 18.53                    | 18.21  |
| 1015-691-1289 | M20 Recoilless Rifle 75 mm    | 126.73                | 82.14                 | 14.86    | 20.02                    | 13.82  |

| FSN           | Nomenclature                   | Unit Weighted Average |                       | Manhour Experience Range |        |
|---------------|--------------------------------|-----------------------|-----------------------|--------------------------|--------|
|               |                                | Funded Parts (73\$)   | Unfunded Parts (73\$) | High                     | Low    |
| 1015-714-1822 | M1A6 Recoil Mechanism          | 146.66                |                       | 71.74                    | 71.74  |
| 1015-736-3974 | M87 Gun Mount                  | 183.10                |                       | 35.33                    | 35.33  |
| 1015-840-1836 | M29 Mortar 81 mm               | 228.49                | 8.99                  | 29.69                    | 17.94  |
| 1025-050-8922 | Equilibrator                   | 386.60                |                       | 44.11                    | 32.45  |
| 1025-322-9755 | M114 Howitzer 155 mm           | 2296.00               | 1784.00               | 364.86                   | 238.95 |
| 1025-322-9768 | M114A1 Howitzer 155 mm         | 4890.00               | 2176.00               | 335.77                   | 225.59 |
| 1025-653-7593 | Equilibrator                   | 84.50                 |                       | 7.50                     | 5.61   |
| 1025-713-3221 | Equilibrator                   | 73.87                 |                       | 40.36                    | 28.00  |
| 1025-714-8074 | M6A2 Recoil Mechanism          | 670.63                | 10.17                 | 192.53                   | 172.33 |
| 1025-863-5613 | M158 Mount Assembly            | 2734.00               |                       | 201.71                   | 136.46 |
| 1025-994-8931 | M123A1 Howitzer 155 mm         | 3595.00               |                       | 247.49                   | 199.97 |
| 1030-322-9788 | M115 Howitzer 8 in             | 3938.00               | 2378.00               | 511.67                   | 395.86 |
| 1030-714-1826 | M4A1 Recoil Mechanism          | 1018.00               |                       | 145.46                   | 145.46 |
| 1055-840-1842 | M20A1B1 Rocket Launcher 3.5 in | 69.92                 | .02                   | 6.81                     | 5.04   |
| 1090-933-6701 | M28 Armament Subsystem         | 11317.00              | 10897.00              | 230.97                   | 230.97 |

| FSN           | Nomenclature              | Unit Weighted Average |                       | Manhour Experience Range |        |
|---------------|---------------------------|-----------------------|-----------------------|--------------------------|--------|
|               |                           | Funded Parts (73\$)   | Unfunded Parts (73\$) | High                     | Low    |
| 1220-344-4678 | M13 Ballistic Computer    | 58.51                 | 1.23                  | 37.08                    | 32.11  |
| 1220-448-0131 | M18 Gun Computer          | 1013.00               | 3315.00               | 522.10                   | 410.00 |
| 1220-546-9735 | M13A1 Ballistic Computer  | 37.70                 | 1.11                  | 34.63                    | 27.40  |
| 1220-572-8738 | M16 Computer              | 293.70                |                       | 40.00                    | 40.00  |
| 1220-676-2182 | M13A1D Ballistic Computer | 149.79                | .30                   | 48.64                    | 24.96  |
| 1220-766-5137 | M38 Sight Computer        | 121.05                | 18.71                 | 46.03                    | 32.75  |
| 1220-766-5139 | Computer Assembly         | 38.06                 | 1.58                  | 47.56                    | 23.86  |
| 1220-774-9445 | M13A1C Ballistic Computer | 33.41                 | 4.85                  | 33.25                    | 27.42  |
| 1220-856-9454 | M13A2 Ballistic Computer  | 58.14                 | .64                   | 35.80                    | 27.36  |
| 1220-870-6274 | M13B1C Ballistic Computer | 61.27                 | 2.04                  | 36.85                    | 24.66  |

| FSN           | Nomenclature               | Unit Weighted Average |              |          | Manhour Experience Range |       |
|---------------|----------------------------|-----------------------|--------------|----------|--------------------------|-------|
|               |                            | Funded                | Unfunded     | Manhours | High                     | Low   |
|               |                            | Parts (73\$)          | Parts (73\$) |          |                          |       |
| 1240-056-4854 | Infinity Sight             | 9.00                  |              | 8.66     | 9.06                     | 6.81  |
| 1240-076-0066 | M113 Panoramic Telescope   | 268.60                |              | 39.68    | 106.00                   | 26.00 |
| 1240-300-6601 | M101 Telescope             | 105.02                |              | 28.91    | 32.73                    | 25.48 |
| 1240-300-7989 | M34A2 Sight Unit           | 37.02                 |              | 13.10    | 15.86                    | 10.64 |
| 1240-344-4632 | M12A7K Panoramic Telescope | 77.05                 |              | 14.05    | 16.76                    | 10.33 |
| 1240-344-4633 | M12A7H Panoramic Telescope | 27.03                 | .19          | 13.72    | 14.75                    | 10.79 |
| 1240-344-4644 | M23 Periscope              | 10.32                 |              | 5.27     | 6.00                     | 4.92  |
| 1240-344-4645 | M20A1 Periscope            | 68.78                 | 58.22        | 9.90     | 11.86                    | 8.74  |
| 1240-344-4646 | M97C Telescope             | 13.85                 |              | 12.33    | 15.14                    | 8.64  |
| 1240-344-4654 | M13 Range Finder           | 187.63                |              | 68.84    | 72.66                    | 64.75 |
| 1240-344-4668 | M100 Panor:mic Telescope   | 131.45                | .07          | 37.46    | 43.85                    | 31.95 |
| 1240-344-4672 | M93 Telescope              | 92.66                 |              | 27.78    | 29.34                    | 24.39 |
| 1240-344-4674 | M95C Telescope             | 89.51                 |              | 37.00    | 39.07                    | 34.77 |
| 1240-346-8735 | M28 Sight Periscope        | 26.77                 |              | 10.21    | 10.36                    | 9.84  |
| 1240-360-1593 | M97 Telescope              | 36.24                 | .72          | 12.81    | 15.00                    | 11.45 |
| 1240-546-6339 | M92D Telescope             | 10.12                 |              | 4.87     | 5.68                     | 3.60  |
| 1240-546-9580 | M20A3 Periscope            | 63.18                 | 30.88        | 10.65    | 11.63                    | 8.56  |

| FSN           | Nomenclature            | Unit Weighted Average |                       | Manhour Experience Range |       |
|---------------|-------------------------|-----------------------|-----------------------|--------------------------|-------|
|               |                         | Funded Parts (73\$)   | Unfunded Parts (73\$) | High                     | Low   |
| 1240-601-4065 | M90F Telescope          | 39.80                 | 5.47                  | 5.47                     | 5.00  |
| 1240-608-2062 | M13A1 Range Finder      | 450.63                | 19.17                 | 33.91                    | 64.35 |
| 1240-554-3811 | M15 Tripod Mount        | .87                   | 2.12                  | 2.12                     | 2.12  |
| 1240-657-4387 | M17 Tripod Mount        | 9.50                  | 5.93                  | 7.02                     | 5.59  |
| 1240-676-2173 | M17C Range Finder       | 277.10                | .43                   | 102.80                   | 82.80 |
| 1240-676-2174 | M31 Periscope           | 79.11                 | .51                   | 21.29                    | 16.83 |
| 1240-676-2178 | M105C Telescope         | 122.58                | 24.93                 | 25.00                    | 24.00 |
| 1240-676-2181 | M44C Sight, Infinity    | 5.29                  | 4.75                  | 5.20                     | 4.00  |
| 1240-706-0794 | M28C Sight, Periscope   | 35.34                 | 10.30                 | 10.84                    | 9.99  |
| 1240-716-2947 | Sight Reflecting        | 10.33                 | 1.44                  | 2.50                     | .84   |
| 1240-732-1469 | M97H Telescope          | 35.08                 | 11.79                 | 13.80                    | 10.84 |
| 1240-757-9927 | M4 Sight                | 3.56                  | 3.84                  | 4.62                     | 3.59  |
| 1240-757-9933 | M1 Panoramic Telescope  | 17.55                 | 8.94                  | 8.92                     | 8.62  |
| 1240-757-9935 | M12 Panoramic Telescope | 34.69                 | 16.00                 | 17.35                    | 12.38 |
| 1240-757-9975 | M62 Elbow Telescope     | 9.58                  | 4.51                  | 5.14                     | 2.47  |
| 1240-759-7757 | M15A1 Periscope         | 87.49                 | 16.56                 | 19.48                    | 16.30 |
| 1240-759-7774 | M84 Telescope           | 3.85                  | 3.58                  | 3.75                     | 3.14  |

| <u>FSN</u>    | <u>Nomenclature</u>        | <u>Unit Weighted Average</u> |                     |                 | <u>Manhour Experience Range</u> |            |
|---------------|----------------------------|------------------------------|---------------------|-----------------|---------------------------------|------------|
|               |                            | <u>Funded</u>                | <u>Unfunded</u>     | <u>Manhours</u> | <u>High</u>                     | <u>Low</u> |
|               |                            | <u>Parts (73\$)</u>          | <u>Parts (73\$)</u> |                 |                                 |            |
| 1240-759-7781 | M16A1D Elbow Telescope     | 23.99                        | .08                 | 5.60            | 6.18                            | 5.14       |
| 1240-759-7782 | M16A1F Elbow Telescope     | 11.48                        |                     | 8.15            | 8.40                            | 7.33       |
| 1240-759-7783 | M16A1G Elbow Telescope     | 10.64                        |                     | 4.96            | 4.96                            | 4.96       |
| 1240-759-7852 | M86F Telescope             | 14.31                        |                     | 5.93            | 6.42                            | 5.00       |
| 1240-759-7853 | M90D Telescope             | 17.84                        |                     | 6.28            | 6.82                            | 4.76       |
| 1240-759-7854 | M34 Sight, Unit            | 42.67                        |                     | 12.79           | 14.52                           | 11.92      |
| 1240-762-9333 | M19 Articulated Telescope  | 22.69                        | 8.09                | 22.75           | 22.75                           | 22.75      |
| 1240-764-1667 | M105 Articulated Telescope | 54.91                        | .04                 | 18.34           | 26.68                           | 16.86      |
| 1240-764-7931 | M34A1 Sight Unit           | 38.08                        |                     | 11.63           | 13.05                           | 10.96      |
| 1240-764-8288 | M24C Sight Unit            | 28.91                        |                     | 4.74            | 4.92                            | 3.86       |
| 1240-764-8432 | M90C Telescope             | 4.65                         |                     | 5.91            | 5.91                            | 5.91       |
| 1240-768-1260 | M12A7C Panoramic Telescope | 27.15                        |                     | 14.09           | 15.02                           | 11.78      |
| 1240-768-7261 | M12A7D Panoramic Telescope | 15.05                        | .18                 | 11.42           | 11.42                           | 11.42      |
| 1240-768-7263 | M12A7F Panoramic Telescope | 19.89                        |                     | 12.00           | 12.00                           | 12.00      |
| 1240-788-1236 | M103 Telescope             | 358.00                       |                     | 4.35            | 4.47                            | 4.16       |
| 1240-819-4519 | M118 Elbow Telescope       | 100.72                       | .01                 | 33.62           | 37.85                           | 19.25      |
| 1240-819-4520 | M118C Elbow Telescope      | 128.34                       |                     | 38.42           | 39.89                           | 37.00      |

| <u>FSN</u>    | <u>Nomenclature</u>        | <u>Unit Weighted Average</u> |                              | <u>Manhour Experience Range</u> |               |
|---------------|----------------------------|------------------------------|------------------------------|---------------------------------|---------------|
|               |                            | <u>Funded Parts (73\$)</u>   | <u>Unfunded Parts (73\$)</u> | <u>High</u>                     | <u>Low</u>    |
| 1240-824-3467 | M62A1C Elbow Telescope     | 15.86                        |                              | 3.58                            | 5.00 3.20     |
| 1240-863-5642 | M17B1C Range Finder        | 1558.40                      | 222.29                       | 122.38                          | 159.70 49.50  |
| 1240-864-2930 | M117 Panoramic Telescope   | 128.71                       | 20.89                        | 42.19                           | 48.75 29.81   |
| 1240-864-2933 | M42 Periscope              | 1.46                         |                              | 4.00                            | 4.38 3.20     |
| 1240-875-7933 | M17A1 Range Finder         | 305.27                       | 21.44                        | 94.86                           | 96.83 84.60   |
| 1240-886-5888 | M92F Elbow Telescope       | 11.61                        | 9.56                         | 5.40                            | 6.54 4.76     |
| 1240-895-9186 | M115 Panoramic Telescope   | 324.04                       |                              | 35.83                           | 39.49 27.00   |
| 1240-898-6787 | M116 Elbow Telescope       | 51.29                        |                              | 5.31                            | 6.00 4.66     |
| 1240-898-6789 | M116C Elbow Telescope      | 37.53                        |                              | 8.41                            | 10.00 6.00    |
| 1240-917-6428 | M12A7Q Panoramic Telescope | 37.17                        | 3.89                         | 13.14                           | 14.19 10.30   |
| 1240-917-6433 | M12A7S Panoramic Telescope | 45.41                        | .16                          | 15.10                           | 16.92 11.33   |
| 1240-924-5783 | M103A1 Telescope           | 26.32                        | .27                          | 4.82                            | 5.12 4.44     |
| 1240-933-5630 | XM44E1 Periscope           | 419.27                       | 303.91                       | 58.20                           | 58.20 58.20   |
| 1240-963-0839 | M114 Elbow Telescope       | 407.56                       |                              | 25.54                           | 100.00 8.00   |
| 1240-974-6432 | M116F Elbow Telescope      | 21.50                        | 10.48                        | 5.25                            | 5.25 5.25     |
| 1240-974-6433 | M116D Elbow Telescope      | 10.96                        |                              | 6.00                            | 6.00 6.00     |
| 1240-977-5586 | M24 Range Finder           | 105.75                       |                              | 159.00                          | 159.00 159.00 |

| <u>FSN</u>    | <u>Nomenclature</u>        | <u>Unit Weighted Average</u> |                              | <u>Manhour Experience Range</u> |            |
|---------------|----------------------------|------------------------------|------------------------------|---------------------------------|------------|
|               |                            | <u>Funded Parts (73\$)</u>   | <u>Unfunded Parts (73\$)</u> | <u>High</u>                     | <u>Low</u> |
|               |                            |                              |                              |                                 |            |
| 1240-980-1745 | M105D Articulate Telescope | 55.22                        | 13.13                        | 26.09                           | 16.40      |
| 1240-980-9288 | M32 Periscope              | 133.15                       | 15.08                        | 35.95                           | 12.59      |
| 1240-980-9290 | M34 Periscope              | 184.20                       |                              | 40.50                           | 28.00      |
| 1240-980-9291 | M36 Periscope              | 267.85                       | 2.97                         | 37.67                           | 36.17      |
| 1240-990-1851 | M28D Periscope             | 17.74                        |                              | 10.79                           | 10.79      |
| 1290-346-8184 | M24 Tripod Mount           | 5.30                         |                              | 3.65                            | 2.05       |
| 1290-652-8560 | M5 Tripod Mount            | 1.25                         |                              | 5.12                            | 1.10       |

| <u>FS#</u>    | <u>Nomenclature</u>              | <u>Unit Weighted Average</u> |                              | <u>Manhour Experience Range</u> |            |         |
|---------------|----------------------------------|------------------------------|------------------------------|---------------------------------|------------|---------|
|               |                                  | <u>Funded Parts (73\$)</u>   | <u>Unfunded Parts (73\$)</u> | <u>High</u>                     | <u>Lcw</u> |         |
|               |                                  |                              |                              |                                 |            |         |
| 2350-049-4791 | M42A1 Anti-aircraft SP Artillery | 8362.                        | 1960.                        | 1994.42                         | 2049.54    | 1942.59 |
| 2350-301-8456 | M48A1 Tank 90 mm                 | 15792.                       | 3825.                        | 2011.48                         | 2119.98    | 1625.30 |
| 2350-436-6635 | M107 SP Gun 175 mm               | 21288.                       | 8530.                        | 2555.89                         | 2605.07    | 2453.04 |
| 2350-439-6242 | M578 Recovery Vehicle            | 15403.                       | 3235.                        | 2506.39                         | 2533.80    | 2503.85 |
| 2350-439-6243 | M110 SP Howitzer 8 in            | 23004.                       | 11771.                       | 2464.49                         | 2639.00    | 2020.40 |
| 2350-440-8810 | M108 SP Howitzer 105 mm          | 15743.                       | 4711.                        | 2456.73                         | 2662.43    | 1983.43 |
| 2350-440-8811 | M109 SP Howitzer 155 mm          | 21144.                       | 1362.                        | 2148.69                         | 2427.31    | 1467.87 |
| 2350-563-7966 | M44A1 SP Howitzer 155 mm         | 96204.                       | 1061.                        | 2062.56                         | 2309.24    | 1908.45 |
| 2350-563-7967 | M52A1 SP Howitzer 105 mm         | 8398.                        | 713.                         | 2187.04                         | 2523.71    | 1927.64 |
| 2350-566-4087 | M41A3 Tank 76 mm                 | 10335.                       | 1269.                        | 2074.54                         | 2128.07    | 1867.84 |
| 2350-678-5772 | M88 Recovery Vehicle             | 11934.                       | 824.                         | 2696.04                         | 3281.45    | 2384.15 |
| 2350-678-5773 | M60 Tank 105 mm                  | 15854.                       | 1652.                        | 2274.35                         | 2301.00    | 2174.18 |
| 2350-679-4812 | M48A2C Tank 90 mm                | 15892.                       | 1365.                        | 2236.68                         | 2971.97    | 2052.95 |
| 2350-736-4202 | M42 Tank 90 mm                   | 15876.                       | 2744.                        | 2172.92                         | 2338.81    | 1764.29 |
| 2350-738-6846 | M41 Tank 76 mm                   | 7053.                        | 2935                         | 2565.50                         | 2565.50    | 2565.50 |
| 2350-739-3840 | M53 Gun 155 mm                   | 17488.                       | 10854.                       | 3650.30                         | 3699.60    | 3412.00 |
| 2350-756-8497 | M60A1 Tank 105 mm                | 14584.                       | 1756.                        | 2279.37                         | 2923.67    | 2172.68 |
| 2350-795-1797 | M728 Engineering Vehicle         | 11929.                       | 14183.                       | 2700.67                         | 2700.67    | 2700.63 |

| <u>FSN</u>    | <u>Nomenclature</u>            | <u>Unit Weighted Average</u> |                              | <u>Manhour Experience Range</u> |            |
|---------------|--------------------------------|------------------------------|------------------------------|---------------------------------|------------|
|               |                                | <u>Funded Parts (73\$)</u>   | <u>Unfunded Parts (73\$)</u> | <u>High</u>                     | <u>Low</u> |
| 2350-796-8000 | M42 Anti-aircraft SP Artillery | 9295.                        | 3189.                        | 2254.86                         | 1730.23    |
| 2350-835-8713 | M51 Recovery Vehicle           | 21023.                       | 1885.                        | 4482.00                         | 3999.89    |
| 2350-873-5408 | M551 Armored Recon. Vehicle    | 23881.                       | 5709.                        | 2326.08                         | 2033.75    |
| 2350-895-9154 | M48A3 Tank 90 mm               | 15777.                       | 9703.                        | 2203.42                         | 1831.33    |

| <u>FSN</u>  | <u>Nomenclature</u>       | <u>Unit Weighted Average</u> |                              | <u>Manhour Experience Range</u> |            |       |
|-------------|---------------------------|------------------------------|------------------------------|---------------------------------|------------|-------|
|             |                           | <u>Funded Parts (73\$)</u>   | <u>Unfunded Parts (73\$)</u> | <u>High</u>                     | <u>Low</u> |       |
| 50-344-4647 | M24 Periscope             | 76.30                        | .03                          | 11.89                           | 13.26      | 10.83 |
| 50-530-0959 | M15A1 Binocular           | 3.63                         |                              | 7.49                            | 7.49       | 7.49  |
| 50-530-0960 | M49 Observation Telescope | 9.13                         |                              | 4.65                            | 5.85       | 4.29  |
| 50-530-0973 | M13A1 Binocular           | 17.20                        |                              | 7.25                            | 7.50       | 7.06  |
| 50-530-0974 | M17A1 Binocular           | 16.61                        |                              | 7.11                            | 7.33       | 6.90  |
| 50-670-2491 | M3 Binocular              | 19.12                        | .02                          | 7.46                            | 8.54       | 6.04  |
| 50-670-2508 | M13 Binocular             | 30.26                        |                              | 9.41                            | 9.48       | 7.56  |
| 50-670-2514 | M16 Binocular             | 12.63                        | .04                          | 6.80                            | 8.75       | 5.26  |
| 50-678-5577 | M65 BC Telescope          | 75.57                        |                              | 24.66                           | 32.69      | 20.46 |
| 50-762-9336 | XM48 Periscope            | 383.50                       | 1.22                         | 17.33                           | 19.73      | 14.70 |
| 50-765-2971 | M19 Periscope             | 81.98                        |                              | 11.77                           | 12.64      | 10.02 |
| 50-788-5464 | XM47 Periscope            | 297.88                       | 3.05                         | 4.72                            | 4.72       | 4.72  |
| 50-863-5657 | M18 Infrared Binocular    | 138.79                       | 1.54                         | 20.50                           | 25.57      | 14.60 |

2. OCOMUS Depot Overhaul

| FSN           | Nomenclature              | Unit Weighted Average |                         | Manhour Experience Range |         |
|---------------|---------------------------|-----------------------|-------------------------|--------------------------|---------|
|               |                           | Funded Parts (73\$)   | Unfunded Parts (73. \$) | High                     | Low     |
| 1015-322-9720 | M30 Mortar 107 mm         | 748.97                | 22.48                   | 22.48                    | 22.48   |
| 1015-322-9752 | M101A1 Howitzer 105 mm    | 2406                  | 619.40                  | 601.00                   | 582.45  |
| 1015-348-4923 | M40A1 Recoilless Rifle    | 348.40                | 45.77                   | 61.81                    | 61.81   |
| 1240-360-1593 | M97 Telescope             | 53.81                 | 30.00                   | 30.00                    | 30.00   |
| 2350-436-6635 | M107 SP Gun 175 mm        | 7296                  | 1528                    | 1877.14                  | 838.40  |
| 2350-439-6243 | M110 SP Howitzer 8"       | 9390                  | 2897                    | 2091.60                  | 708.35  |
| 2350-440-8810 | M108 SP Howitzer 105 mm   | 8357                  | 37.09                   | 323.75                   | 323.75  |
| 2350-440-8811 | M109 SP Howitzer 155 mm   | 7371                  | 284.80                  | 1819.66                  | 1232.88 |
| 2350-678-5772 | M88 Recovery Vehicle      | 9471                  | 145.88                  | 1800.00                  | 1800.00 |
| 2350-678-5773 | M60 Tank 105 mm           | 17141                 | 743.23                  | 1040.47                  | 1040.47 |
| 2350-756-8497 | M60A1 Tank 105 mm         | 18118                 | 778.34                  | 1384.87                  | 1384.87 |
| 2350-895-9154 | M48A3 Tank 90 mm          | 22738                 | 3176                    | 3010.36                  | 3010.36 |
| 6650-530-0960 | M49 Observation Telescope | 33.36                 | *                       | *                        | *       |
| 6650-670-2491 | M3 Binocular              | 19.43                 | 12.00                   | 12.00                    | 12.00   |
| 6650-863-5657 | M18 Infrared Binocular    | 122.47                | 5.55                    | 5.55                     | 5.55    |

\* Hours not reported

analysis and give an indication of how well the CER explains the CER's in this section. These statistics follow from the correlation

The following statistics are presented with each of the

to select valid CER's.

performing the regression analyses, correlation analysis was used were developed based on standard regression analysis theory. After historical data on the independent and dependent variables, CER's average funded parts cost found in Section II-A. After collecting (composite FY 73 CONUS depot rate) and adding the item unit weighted item unit weighted average manhours found in Section II-A by \$12.13 as dependent variable values were determined by multiplying the time the cost estimate is made. Major item overhaul costs used the restraint that the independent variables must be known at the as candidate independent variables. Consideration was given to The CER's were derived by evaluating potential cost drivers

sion for the dependent variable.

of the independent variables in the expression and solving the expres- Cost estimates are obtained from the CER's by substituting the values with the exception of standard price which is defined in Appendix A. These characteristics are usually physical or performance in nature independent variables are characteristics regarded as cost drivers. (the dependent variable) to one or more independent variables. The expressions relating CONUS depot unit overhaul cost in FY 73 dollars The CER's presented in this section are statistically derived

COST ESTIMATING RELATIONSHIPS (CER'S)

SECTION III

### SECTION III

#### COST ESTIMATING RELATIONSHIPS (CER'S)

The CER's presented in this section are statistically derived expressions relating CONUS depot unit overhaul cost in FY 73 dollars (the dependent variable) to one or more independent variables. The independent variables are characteristics regarded as cost drivers. These characteristics are usually physical or performance in nature with the exception of standard price which is defined in Appendix A. Cost estimates are obtained from the CER's by substituting the values of the independent variables in the expression and solving the expression for the dependent variable.

The CER's were derived by evaluating potential cost drivers as candidate independent variables. Consideration was given to the restraint that the independent variables must be known at the time the cost estimate is made. Major item overhaul costs used as dependent variable values were determined by multiplying the item unit weighted average manhours found in Section II-A by \$12.13 (composite FY 73 CONUS depot rate) and adding the item unit weighted average funded parts cost found in Section II-A. After collecting historical data on the independent and dependent variables, CER's were developed based on standard regression analysis theory. After performing the regression analyses, correlation analysis was used to select valid CER's.

The following statistics are presented with each of the CER's in this section. These statistics follow from the correlation analysis and give an indication of how well the CER explains the

relationship between the independent and dependent variables.

1. Coefficient of Determination. This number indicates the percentage of total variation of the dependent variable that is explained by the regression. The value falls within the range of 0 (no correlation among the variables) to 1 (perfect correlation). The F distribution was used to determine whether the coefficients of determination are significant, that is, whether the obtained coefficients of determination are large enough to be considered as showing true relationships between the independent and dependent variables. The criteria used for significant correlation was a 0.10 or less level of significance. The level of significance establishes the chance of rejecting the hypothesis that the population coefficient of determination is zero when in fact the hypothesis is true.

2. Standard Error of Estimate. This is an absolute measure of the dispersion of the estimated values of the dependent variable from the actual values. Generally, the lower the standard error of estimate for a given regression the better the fit between the regression line and the actual data points. The standard error of estimate is used to determine the following:

- a. Coefficient of variation
- b. Confidence intervals
- c. Prediction intervals

3. Mean Absolute Percent Deviation. The mean absolute percent deviation (MAPD) is a relative measure of the average of the absolute values of the percent deviations between the actual and calculated dependent variable values. Algebraically written MAPD equals

$$\frac{100}{n} \cdot \sum_{i=1}^n \left| \frac{\hat{Y}_i - Y_i}{Y_i} \right|$$

where  $\hat{Y}$  and  $Y$  are the calculated and actual dependent variable values respectively and  $n$  is the number of data points.

4. Coefficient of Variation. The coefficient of variation is a relative measure of the ratio of the standard error of estimate to the mean of the actual dependent variable values. The ratio is most useful for comparing the relative worth of different regressions. As a rule of thumb, a good regression should have a coefficient of variation of 0.20 or less.

Limitations. In general, CER's are most useful for estimating costs in the early stages of weapon system development. They may be used later in the life cycle as a validation of or complement to other cost estimating methods. For estimating costs with very close historical counterparts, the analogy method of cost estimating is probably more accurate. Caution should be used in estimating costs of weapon systems which represent major technological advances since the data upon which the CER's are based may be irrelevant to the new weapon systems. Finally, of course, the CER's should not be used for estimating costs when an independent variable value diverges from the range of the data upon which the CER's are based.

CAL. 30 RIFLES

Equation:  $\hat{Y} = -18.020 + 0.516 X$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars.

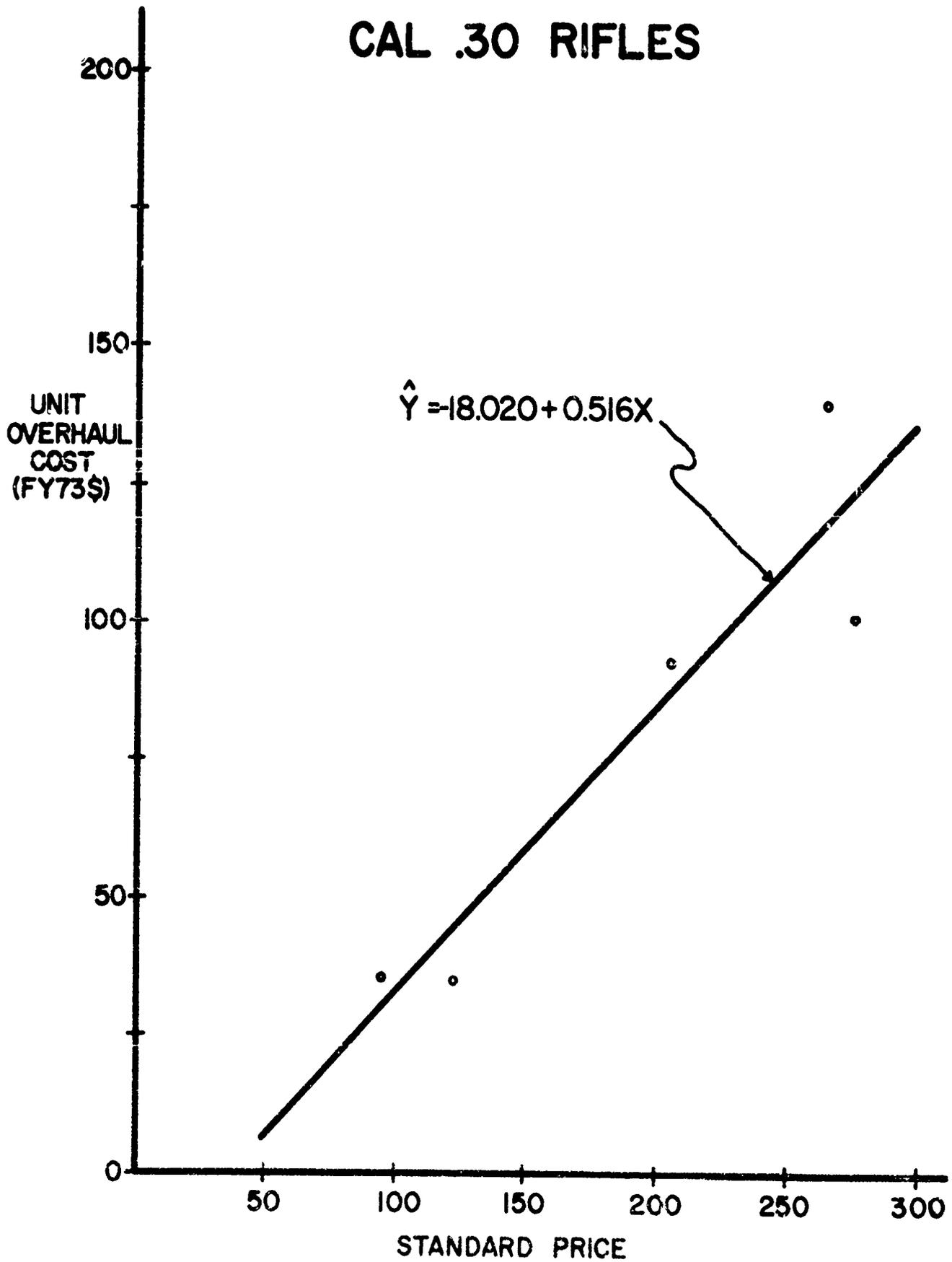
X: standard price

Coefficient of determination = .864  
Standard error of estimate = 19.39  
Mean absolute percent deviation = 17.02  
Coefficient of variation = .238

| <u>Item</u> | <u>X-Std Price</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|--------------------|----------------------|---------------------------------------|
| M14         | 122                | 35.17                | 44.95                                 |
| M1          | 94.30              | 35.81                | 30.65                                 |
| M14A1       | 206                | 93.33                | 88.31                                 |
| M1D         | 275                | 101.60               | 123.92                                |
| M1918A2 BAR | 265                | 140.71               | 118.76                                |

Graphical representation of the above equation is presented on the following page.

# CAL .30 RIFLES



REVOLVERS AND PISTOLS

Revolvers and pistols were grouped together because small parts and complexity of these would exhibit similar costs. Due to the small range of unit overhaul costs exhibited by revolvers and pistols no CER is developed. Therefore, the unit overhaul costs are best stated as having the mean value of \$25.49 in FY 73 dollars.

| <u>Item</u>                          | <u>Unit<br/>Overhaul Cost</u> |
|--------------------------------------|-------------------------------|
| Revolver Cal. 38 (FSN 1005-214-0934) | \$26.74                       |
| Revolver Cal. 38 (FSN 1005-726-5687) | 26.75                         |
| Revolver Cal. 38 (FSN 1005-726-5786) | 23.54                         |
| M1911A1 Pistol Cal. 45               | 24.91                         |

MACHINE GUNS

Equation:  $\hat{W} = 247.702 - 541.810X + 0.072Y + 1.294Z$

where  $\hat{W}$ : calculated unit overhaul cost in FY 73 dollars

X: bore size (caliber)

Y: standard price

Z: weight (lbs)

Coefficient of determination = .927

Standard error of estimate = 37.20

Mean absolute percent deviation = 15.41

Coefficient of variation = .206

| <u>Item</u>            | <u>X-Caliber</u> | <u>Y-Std Price</u> | <u>Z-Weight</u> | <u>W-Actual Cost</u> | <u><math>\hat{W}</math>-Calc Cost</u> |
|------------------------|------------------|--------------------|-----------------|----------------------|---------------------------------------|
| M3A1                   | .45              | 111                | 8.06            | 26.06                | 22.36                                 |
| M2 (FSN 1005-606-8412) | .50              | 900                | 80              | 110.93               | 145.50                                |
| M37                    | .30              | 341                | 34.7            | 117.33               | 154.76                                |
| M2 (FSN 1005-957-3893) | .50              | 900                | 80              | 124.89               | 145.50                                |
| M60                    | .30              | 708                | 23.16           | 147.22               | 166.39                                |
| M2 (FSN 1005-322-9715) | .50              | 1026               | 82              | 148.49               | 157.21                                |
| M1919A4                | .30              | 297                | 31              | 148.56               | 146.79                                |
| M1919A6                | .30              | 463                | 32.5            | 155.22               | 160.75                                |
| M2 (FSN 1005-602-2105) | .50              | 700                | 80              | 170.07               | 131.02                                |
| M2 (FSN 1005-693-4854) | .50              | 900                | 80              | 190.13               | 145.50                                |
| M73                    | .30              | 2513               | 29.31           | 364.65               | 305.04                                |
| M85                    | .50              | 5829               | 65              | 460.84               | 482.95                                |

RECOILLESS RIFLES

Equation:  $\hat{\text{LnY}} = 5.308 + 0.00545X$

or  $\hat{Y} = \text{Antiln} (5.308 + 0.00545X)$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

X: weight (lbs)

Definition: Antiln is the natural (Naperian) antilogarithm or antilogarithm to the base e.

(e = 2.718....).

Coefficient of determination = .955

Standard error of estimate = 57.88

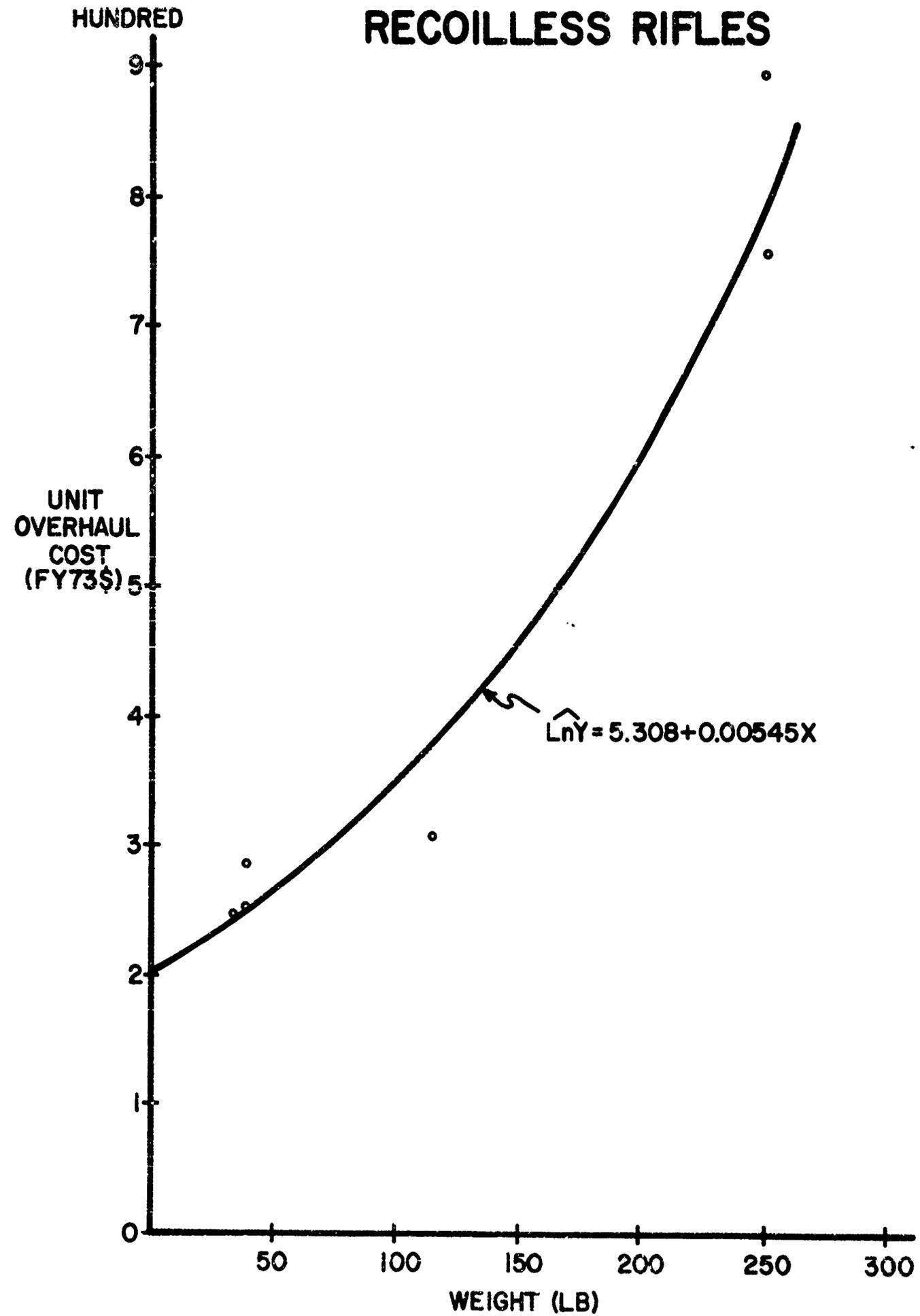
Mean absolute percent deviation = 8.72

Coefficient of variation = .127

| <u>Item</u> | <u>X-Weight</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|-----------------|----------------------|---------------------------------------|
| M67         | 35              | 246.44               | 244.45                                |
| M18A1       | 40.25           | 249.97               | 251.55                                |
| M18         | 40.25           | 286.82               | 251.55                                |
| M20         | 114.5           | 306.98               | 377.05                                |
| M40A1       | 251             | 758.29               | 793.49                                |
| M40A2       | 251             | 892.89               | 793.49                                |

Graphical representation of the above equation is presented on the following page.

# RECOILLESS RIFLES



MORTARS

Equation:  $\hat{Y} = -2394 + 631.46 (\text{Ln}X)$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

X: bore size (mm)

Coefficient of determination = .863

Standard error of estimate = 85.53

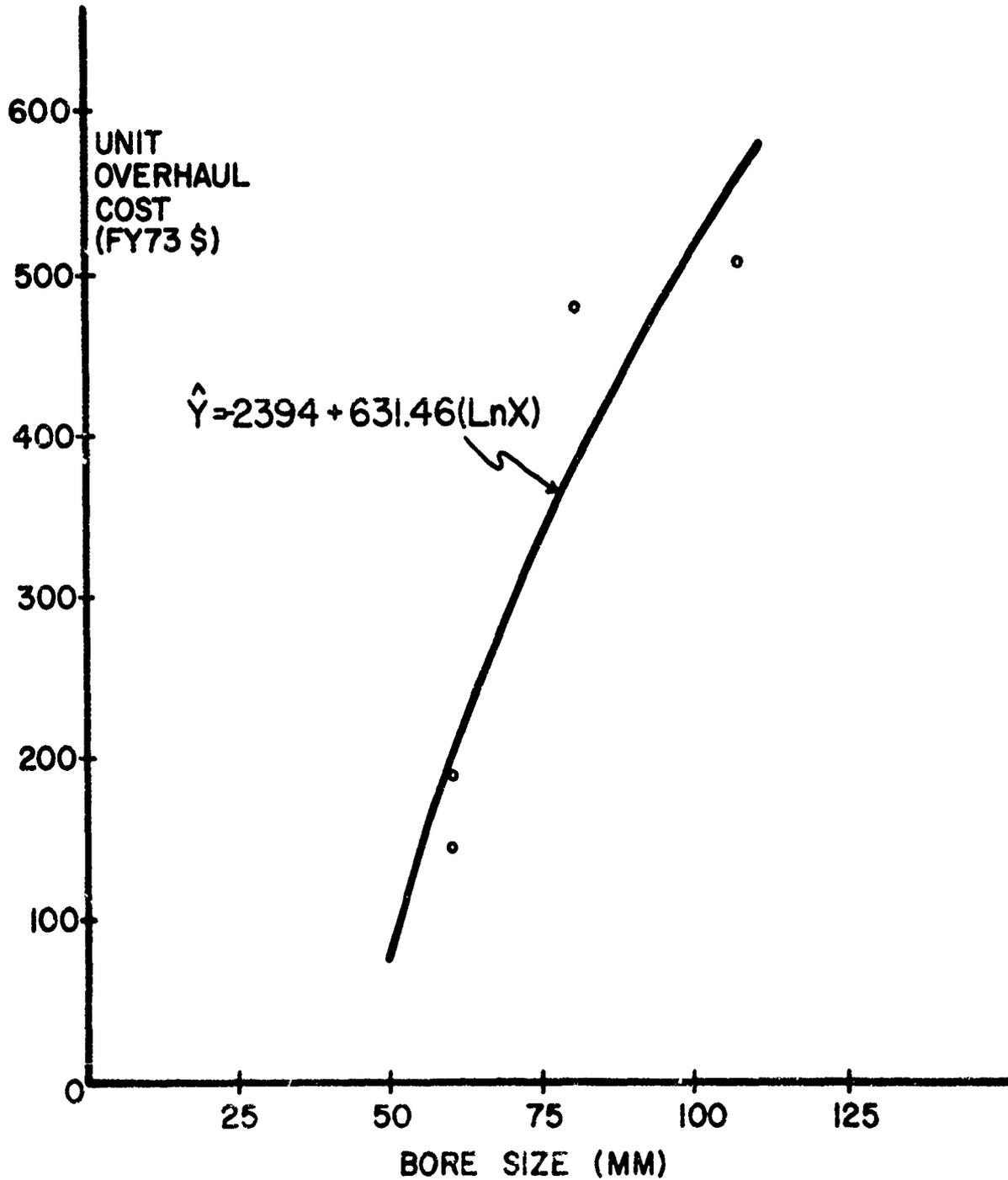
Mean absolute percent deviation = 13.8%

Coefficient of variation = .259

| <u>Item</u> | <u>X-MM</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|-------------|----------------------|---------------------------------------|
| M19         | 60          | 144.72               | 191.40                                |
| M2          | 60          | 190.44               | 191.40                                |
| M29         | 81          | 479.95               | 380.91                                |
| M30         | 107         | 505.32               | 556.69                                |

Graphical representation of the above equation is presented on the following page.

# MORTARS



RECOIL MECHANISMS

Equation:  $\hat{Y} = -3639 + 3.367X$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

X: muzzle velocity of end item application (ft/sec)

Coefficient of determination = .964

Standard error of estimate = 141.68

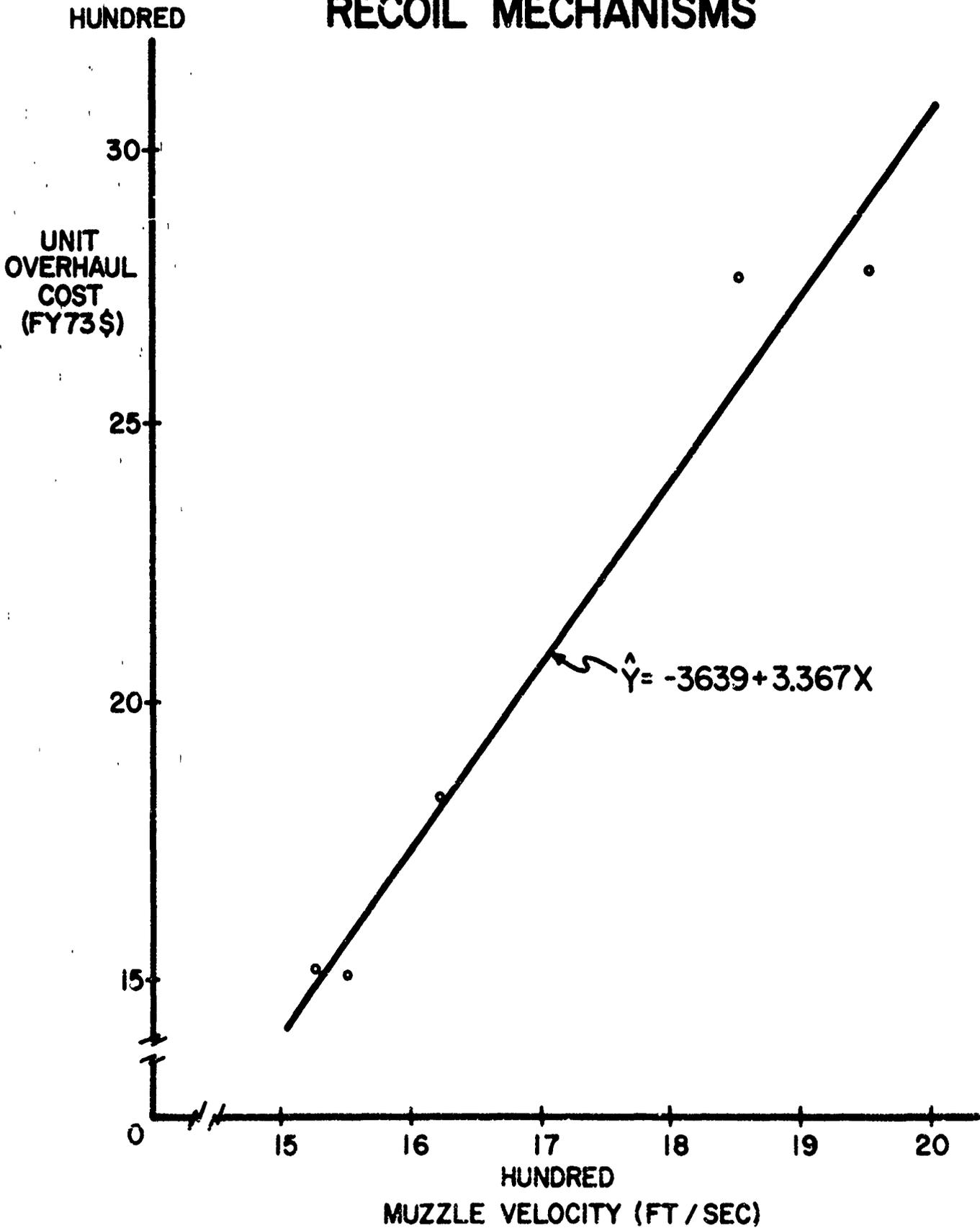
Mean absolute percent deviation = 3.62

Coefficient of variation = .068

| <u>Item</u> | <u>End Item Application</u> | <u>X-Muzzle Vel</u> | <u>Y-Actual Cost</u> | <u>Y-Calc Cost</u> |
|-------------|-----------------------------|---------------------|----------------------|--------------------|
| M2A4        | M101 How                    | 1550                | 1508.93              | 1580.13            |
| M2A5        | M101A1 How                  | 1526                | 1514.99              | 1499.32            |
| M37         | M102 How                    | 1621                | 1829.27              | 1819.20            |
| M6A2        | M114 How                    | 1850                | 2777.01              | 2590.30            |
| M4A1        | M115 How                    | 1949                | 2782.43              | 2923.65            |

Graphical representation of the above equation is presented on the following page.

# RECOIL MECHANISMS



TOWED HOWITZERS

Equation:  $\hat{Y} = 4480 + 0.319X$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

X: applied momentum (lbs - sec)

Coefficient of determination = .960

Standard error of estimate = 522.40

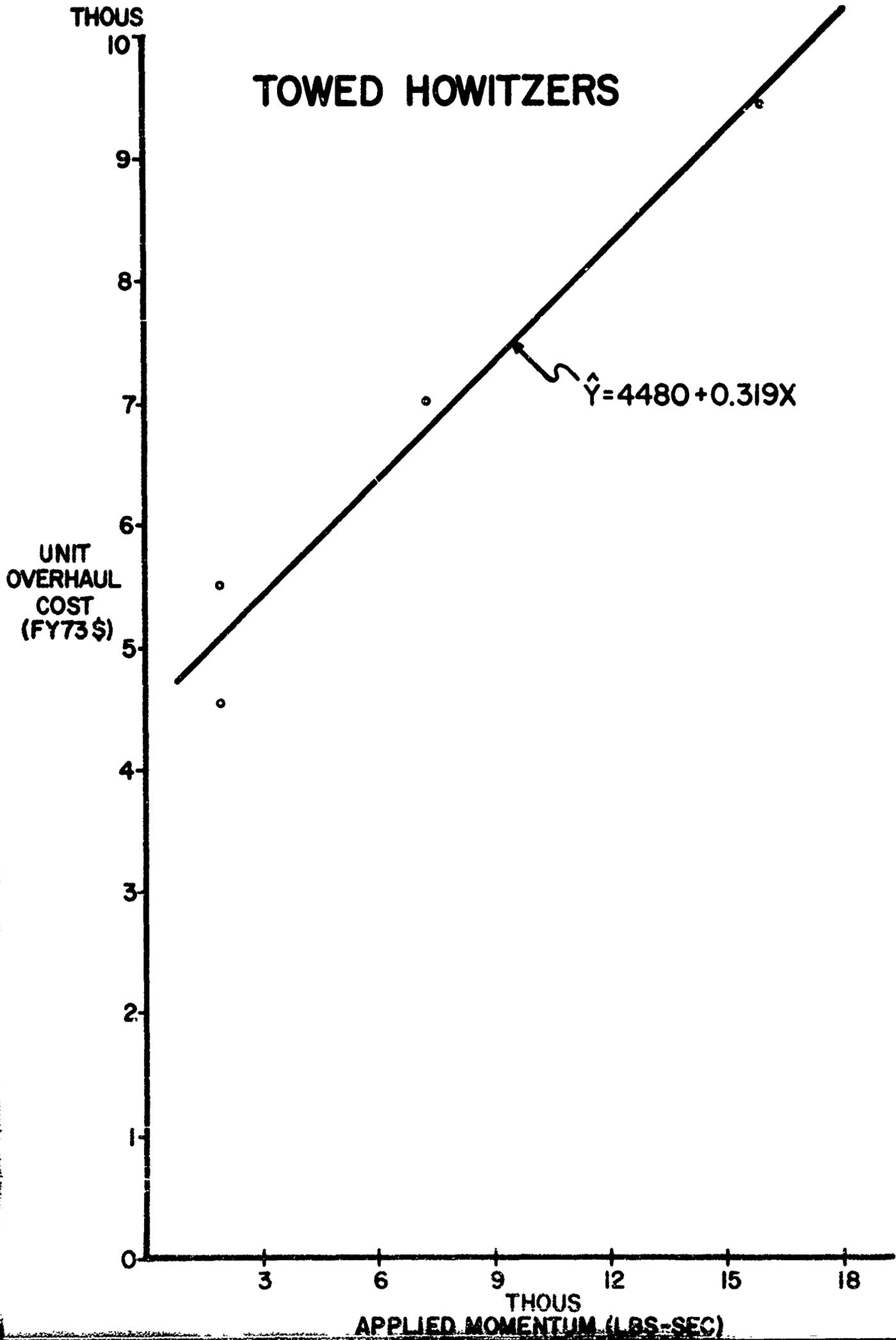
Mean absolute percent deviation = 6.03

Coefficient of variation = .079

| <u>Item</u> | <u>X-Applied Momentum</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|---------------------------|----------------------|---------------------------------------|
| M101A1      | 1,950                     | 4,543                | 5,102                                 |
| M102        | 1,923                     | 5,502                | 5,093                                 |
| M114/A1     | 7,250                     | 7,032                | 6,791                                 |
| M115        | 15,870                    | 9,447                | 9,538                                 |

Graphical representation of the above equation is presented on the following page.

# TOWED HOWITZERS



SELF-PROPELLED HOWITZERS

Equation:  $\hat{Y} = -306389 + 32123 (\text{Ln}X)$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

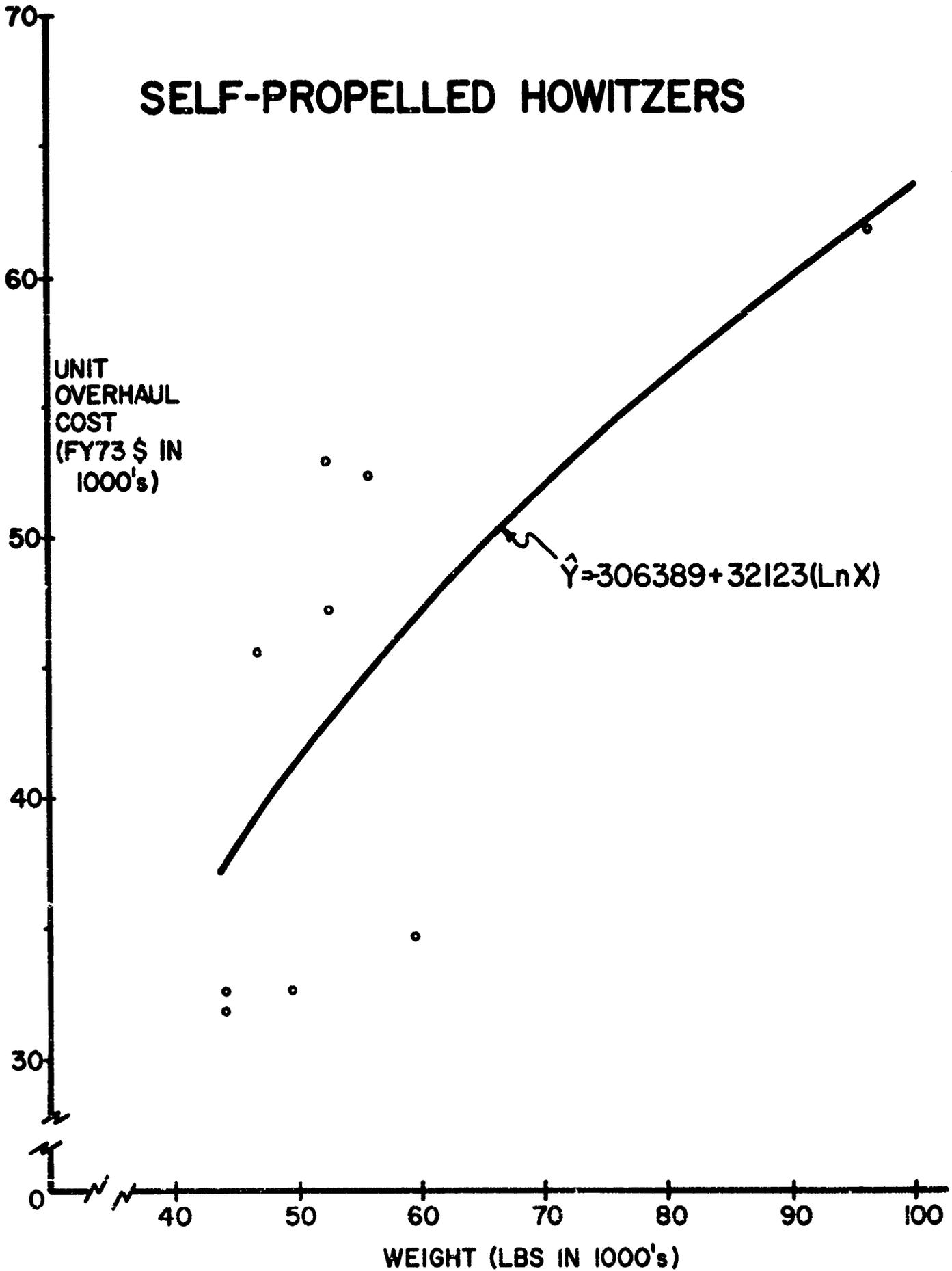
X: weight (lbs)

|                                 |   |       |
|---------------------------------|---|-------|
| Coefficient of determination    | = | .500  |
| Standard error of estimate      | = | 8131  |
| Mean absolute percent deviation | = | 15.84 |
| Coefficient of variation        | = | .186  |

| <u>Item</u> | <u>X-Weight</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|-----------------|----------------------|---------------------------------------|
| M42         | 44,300          | 31,805               | 37,288                                |
| M42A1       | 44,300          | 32,554               | 37,288                                |
| M44A1       | 59,500          | 34,639               | 46,764                                |
| M52A1       | 49,800          | 34,927               | 41,047                                |
| M108        | 46,921          | 45,543               | 39,134                                |
| M109        | 52,461          | 47,208               | 42,719                                |
| M107        | 55,800          | 52,291               | 44,701                                |
| M110        | 52,200          | 52,898               | 42,559                                |
| M53         | 96,000          | 61,766               | 62,131                                |

Graphical representation of the above equation is presented on the following page.

# SELF-PROPELLED HOWITZERS



STRAIGHT TELESCOPES

Straight telescopes with standard price less than \$600 were included in this section.

Equation:  $\hat{Y} = 36.698 + 0.289 X$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

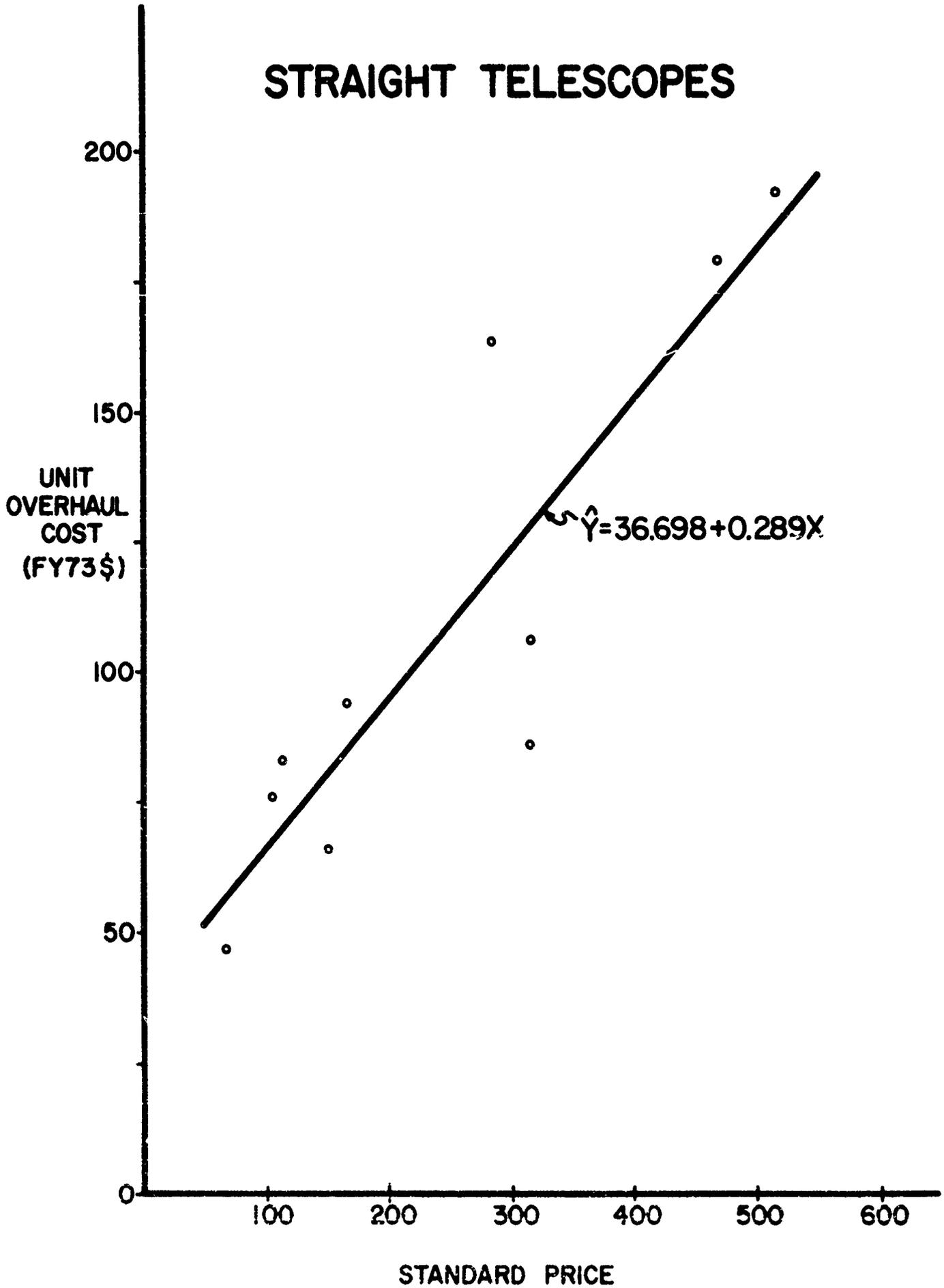
X: standard price

Coefficient of determination = .784  
Standard error of estimate = 24.74  
Mean absolute percent deviation = 18.35  
Coefficient of variation = .226

| <u>Item</u> | <u>X-Std Price</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|--------------------|----------------------|---------------------------------------|
| M84         | 70.44              | 47.28                | 57.03                                 |
| M49         | 153                | 65.54                | 80.86                                 |
| M90C        | 107                | 76.34                | 67.58                                 |
| M103A1      | 118                | 84.79                | 70.76                                 |
| M86F        | 315                | 86.24                | 127.64                                |
| M90D        | 169                | 94.02                | 85.48                                 |
| M90F        | 316                | 106.15               | 127.92                                |
| M97C        | 286                | 163.41               | 119.26                                |
| M97H        | 468                | 178.09               | 171.81                                |
| M97         | 514                | 191.63               | 185.09                                |

Graphical representation of the above equation is presented on the following page.

# STRAIGHT TELESCOPES



## ELBOW TELESCOPES

Elbow telescopes with a standard price less than \$250 were included in this section.

$$\text{Equation: } \hat{Y} = 40.860 + 0.344X$$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

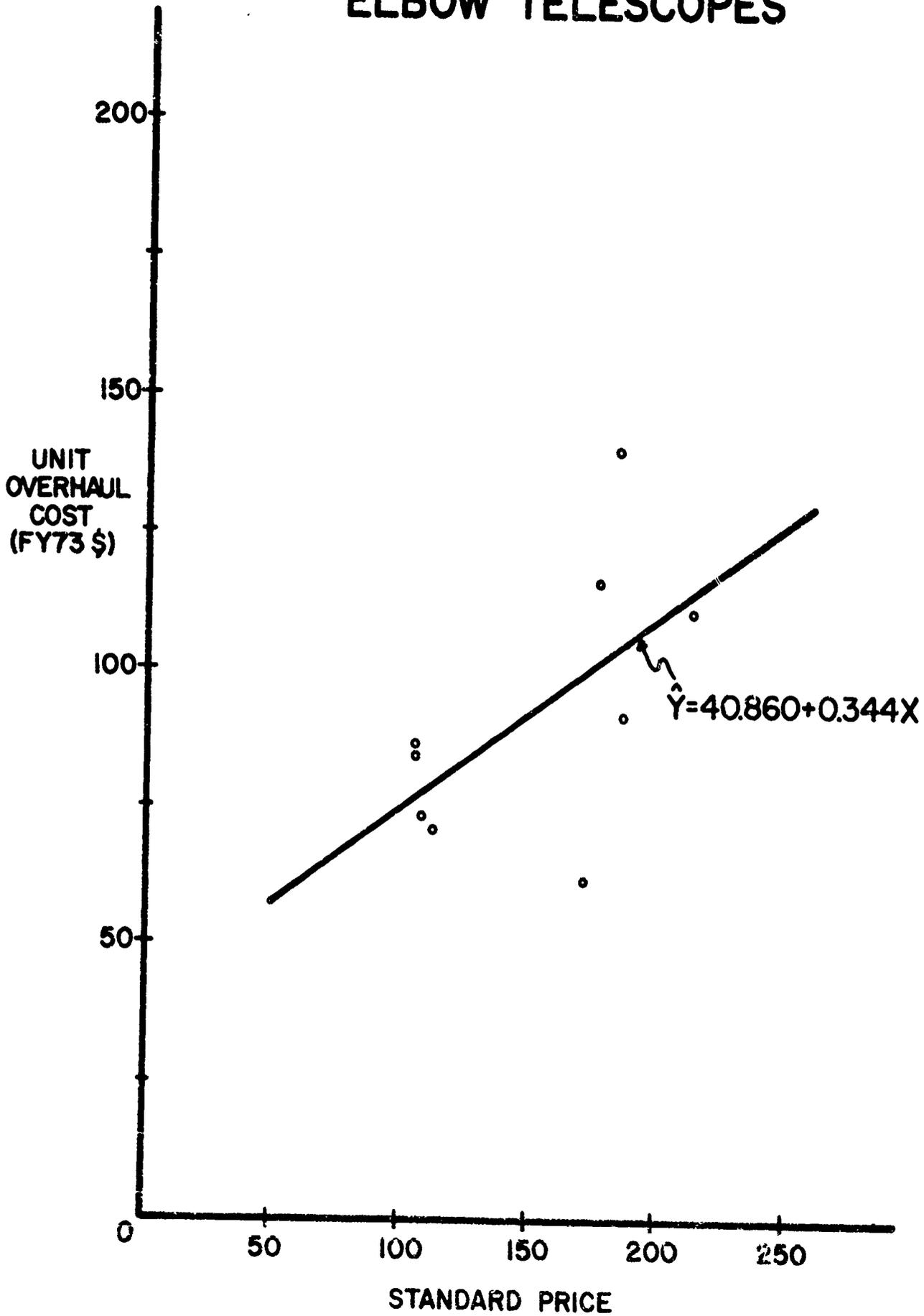
X: standard price

|                                 |   |       |
|---------------------------------|---|-------|
| Coefficient of determination    | = | .345  |
| Standard error of estimate      | = | 21.61 |
| Mean absolute percent deviation | = | 16.83 |
| Coefficient of variation        | = | .234  |

| <u>Item</u> | <u>X-Std Price</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|--------------------|----------------------|---------------------------------------|
| M62 Series  | 170                | 61.79                | 99.25                                 |
| M16A1G      | 111                | 70.81                | 78.99                                 |
| M92 Series  | 107                | 73.15                | 77.61                                 |
| M116D       | 105                | 83.74                | 76.92                                 |
| M116F       | 105                | 85.18                | 76.92                                 |
| M16A1D      | 185                | 91.92                | 104.40                                |
| M16A1F      | 212                | 110.34               | 113.68                                |
| M116        | 173                | 115.70               | 100.28                                |
| M116C       | 184                | 139.54               | 104.06                                |

Graphical representation of the above equation is presented on the following page.

# ELBOW TELESCOPES



TANK PERISCOPES

Equation:  $\hat{Y} = 1.494X^{0.773}$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

X: standard price

Coefficient of determination = .939

Standard error of estimate = 67.12

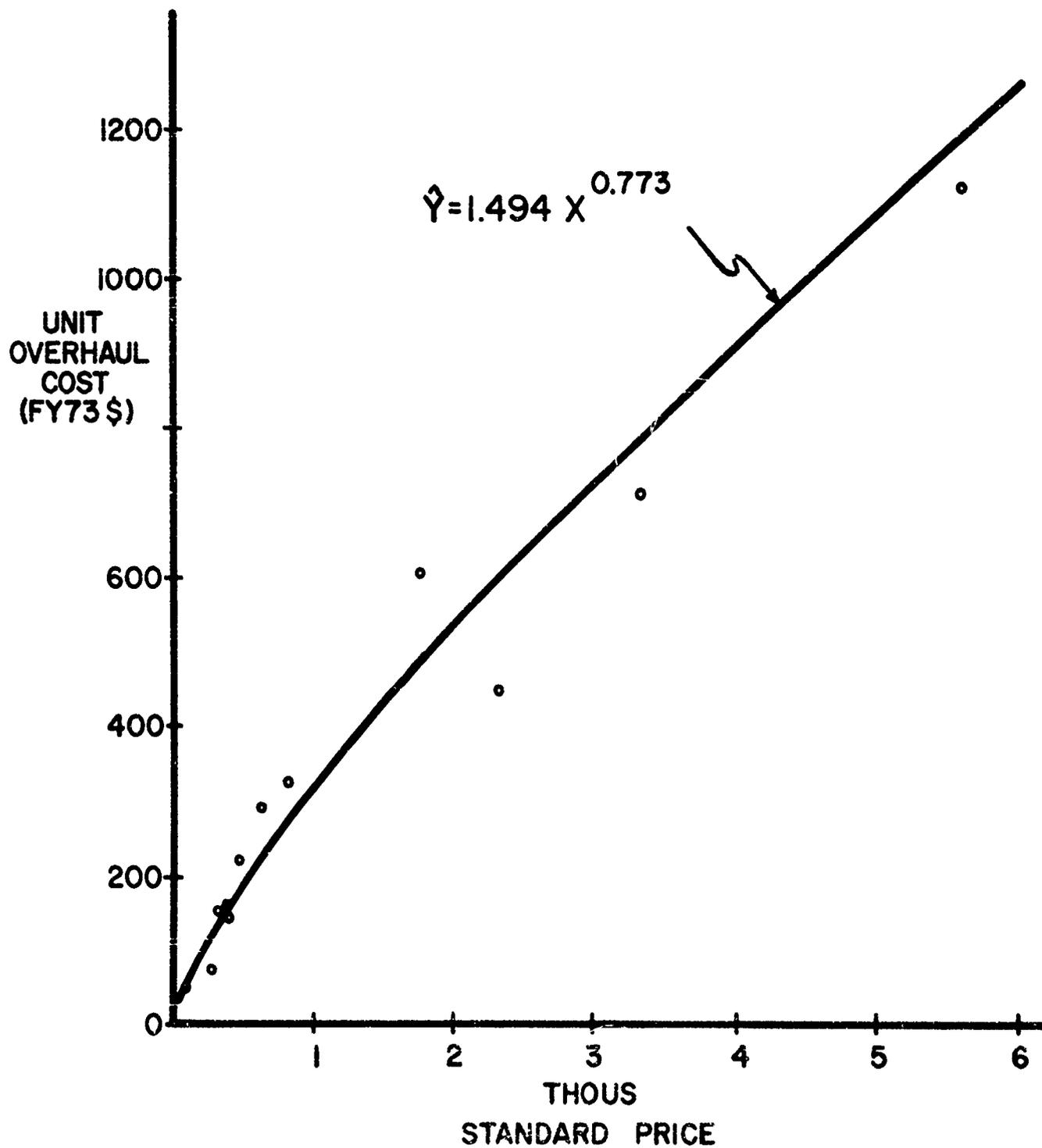
Mean absolute percent deviation = 18.62

Coefficient of variation = .187

| <u>Item</u> | <u>X-Std Price</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|-------------|--------------------|----------------------|---------------------------------------|
| M42         | 107                | 49.98                | 55.44                                 |
| M23         | 291                | 74.25                | 120.19                                |
| M28         | 327                | 150.62               | 131.54                                |
| M28D        | 398                | 148.62               | 153.13                                |
| M28C        | 398                | 160.28               | 153.13                                |
| M24         | 484                | 220.53               | 178.14                                |
| M15A1       | 632                | 288.36               | 218.97                                |
| M31         | 823                | 323.53               | 268.59                                |
| M34         | 1779               | 603.78               | 487.54                                |
| M32         | 2320               | 446.35               | 598.67                                |
| M36         | 3326               | 708.53               | 791.00                                |
| XM44E1      | 5600               | 1125.24              | 1183.51                               |

Graphical representation of the above equation is presented on the following page.

# TANK PERISCOPES



SIGHTS

Equation:  $\hat{Y} = 0.169X^{1.206}$

where  $\hat{Y}$ : calculated unit overhaul cost in FY 73 dollars

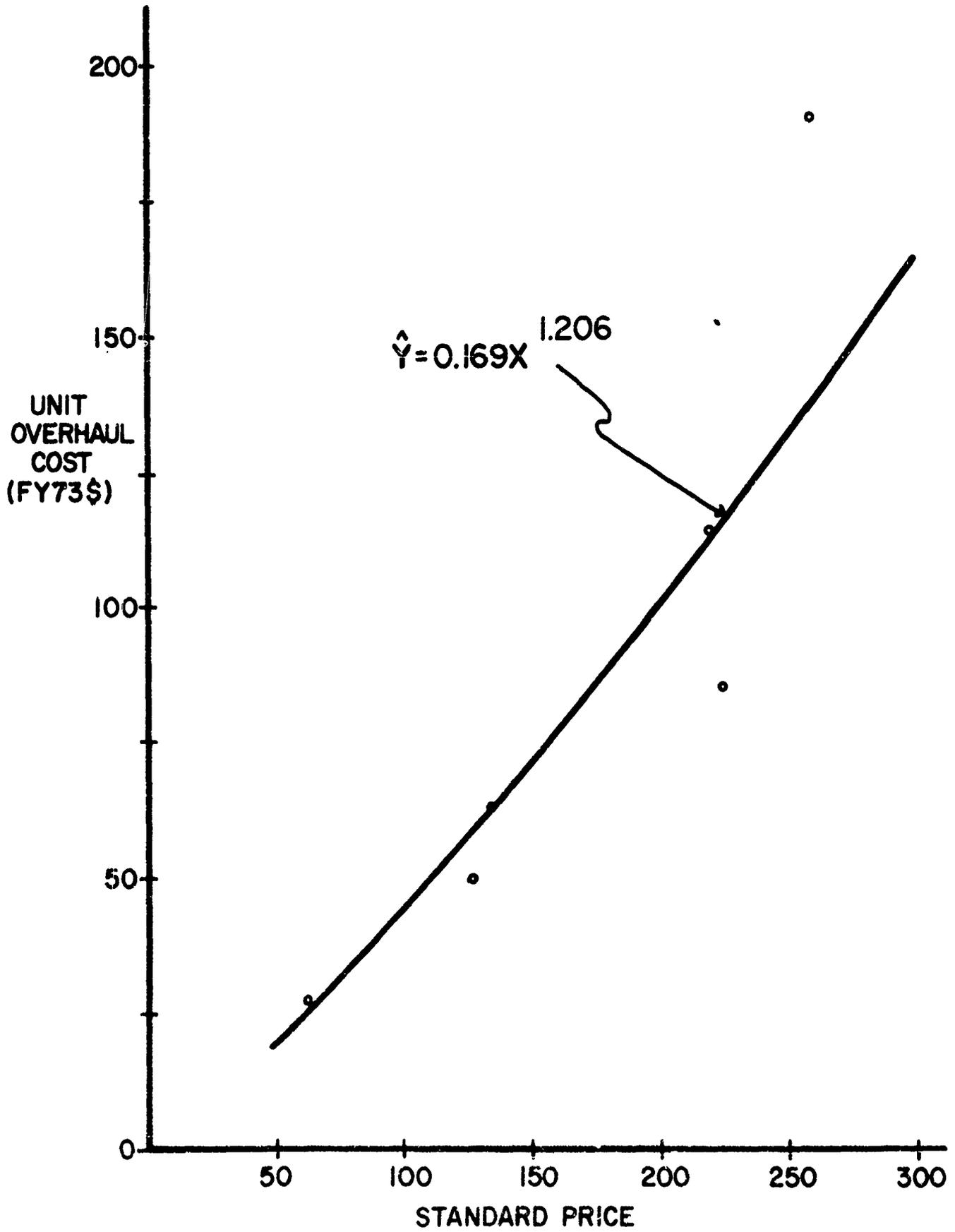
X: standard price

|                                 |   |       |
|---------------------------------|---|-------|
| Coefficient of determination    | = | .896  |
| Standard error of estimate      | = | 20.24 |
| Mean absolute percent deviation | = | 15.08 |
| Coefficient of variation        | = | .228  |

| <u>Item</u>                              | <u>X-Std Price</u> | <u>Y-Actual Cost</u> | <u><math>\hat{Y}</math>-Calc Cost</u> |
|--|--------------------|----------------------|---------------------------------------|
| Sight, reflecting<br>(FSN 1240-716-2947) | 63.22              | 27.80                | 25.06                                 |
| M4 Sight                                 | 128                | 50.14                | 58.67                                 |
| M44C Infinity Sight                      | 135                | 62.91                | 62.56                                 |
| M24C Sight Unit                          | 225                | 86.41                | 115.83                                |
| Infinity Sight<br>(FSN 1240-056-4854)    | 221                | 114.05               | 113.35                                |
| M34 Sight Unit Series                    | 258                | 190.96               | 136.61                                |

Graphical representation of the above equation is presented on the following page.

# SIGHTS



TANKS

Due to the small range of unit overhaul cost exhibited by tanks no CER is developed. Therefore, the unit overhaul costs are best stated as having the mean value of \$41,103 in FY 73 dollars.

| <u>Item</u> | <u>Unit<br/>Overhaul Cost</u> |
|-------------|-------------------------------|
| M41A3       | \$35499                       |
| M48A1       | 40191                         |
| M48A3       | 41097                         |
| M60A1       | 42233                         |
| M48         | 42234                         |
| M48A2C      | 43023                         |
| M60         | 43442                         |

## APPENDIX A

### DEFINITIONS

**Cyclic/Normal Overhaul/Rebuild (WAC Code A1)** - To restore an item to a standard as nearly as possible to original or new condition in appearance, performance and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and specifications and subsequent reassembly of the item. Also includes the disassembly, testing, and inspecting of the operating components and the basic structure to determine and accomplish the necessary rework, replacement, and servicing required to obtain the desired performance and permit the return of an item to the supply system in accordance with maintenance standards established for each item of equipment (AR 750-1). Includes overhaul performed on site when such maintenance requires the skills, tools and equipment of depot maintenance personnel and facilities. Includes the overhaul/rebuild of equipment returned on a cyclic basis to depot maintenance activities based on hours of operation, mileage, or other established operational criteria, in addition to normal returns based on technical inspections. Includes rebuild only when approved by DA/DCSLOG.

**Funded Parts** - Army Stock Funded (ASF) Parts. ASF parts required for overhaul are charged to the project program.

**Standard Price** - A predetermined price established in accordance with prescribed criteria for each item in the Army supply system. See AR 735-7 for standard price objectives.

**Unfunded Parts** - PEMA (free issue) Parts. PEMA funded parts required for overhaul are not charged to the project program.

APPENDIX B

AVERAGE ANNUAL UNIT COST TO OVERHAUL  
(EXCLUDING UNFUNDED PARTS COST) BY MAJOR ITEM IN  
FY 73 DOLLARS

This appendix provides a historical summary by item by which assumptions can be made concerning future overhaul/rebuild costs. The following pages present the weighted average unit cost to overhaul excluding unfunded parts cost in FY 73 dollars by fiscal year for the major items listed in Section II. Data are displayed in FSN numerical sequence for both CONUS and OCONUS depot overhaul.

L. CONUS Depot Overhaul

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN          | NOMENCLATURE              | FY 66  |        |        |        |    | FY 72 |    |    |        |        |
|--------------|---------------------------|--------|--------|--------|--------|----|-------|----|----|--------|--------|
|              |                           | 67     | 68     | 69     | 70     | 71 | 72    | 73 | 74 | 75     |        |
| 005-072-5011 | M14A1 Rifle 7.62MM        | 62.30  | 103.39 | 90.49  | 93.29  |    |       |    |    |        |        |
| 005-073-9421 | M16A1 Rifle 5.56MM        |        |        |        |        |    |       |    |    |        | 61.97  |
| 005-214-0934 | S&W Revolver Cal 38       | 24.15  | 34.98  |        | 30.79  |    |       |    |    |        |        |
| 005-317-2425 | M36 Gun Mount             | 170.51 | 181.34 | 175.61 | 245.61 |    |       |    |    |        |        |
| 005-317-2427 | M36A1 Gun Mount           | 175.48 | 200.51 |        | 231.34 |    |       |    |    | 214.28 |        |
| 005-317-2428 | M36A2 Gun Mount           | 132.78 | 238.24 | 235.53 |        |    |       |    |    |        |        |
| 005-317-2442 | M31 C Pedestal Mount      |        |        | 100.08 | 124.12 |    |       |    |    |        |        |
| 005-322-9715 | M2 Machine Gun Cal 50 HB  |        | 145.58 | 126.46 |        |    |       |    |    |        |        |
| 005-322-9716 | M3 Tripod Mount Cal 50    | 101.63 | 78.93  |        | 121.37 |    |       |    |    | 99.93  |        |
| 005-322-9718 | M2 Tripod Mount Cal 30    | 58.67  | 50.60  | 49.04  | 103.86 |    |       |    |    | 47.84  |        |
| 005-322-9727 | M24A3 Gun Mount           | 61.00  |        |        |        |    |       |    |    |        |        |
| 005-511-9042 | M8C Spotting Rifle Cal 50 | 219.13 | 243.60 |        | 101.37 |    |       |    |    |        |        |
| 005-589-1271 | M14 Rifle 7.62MM          | 51.88  | 39.58  | 31.63  | 38.91  |    |       |    |    |        |        |
| 005-602-2105 | M2 Machine Gun Cal 50 HB  | 186.48 | 166.88 |        |        |    |       |    |    |        |        |
| 005-605-7710 | M60 Machine Gun 7.62MM    | 156.74 | 100.85 |        | 137.11 |    |       |    |    | 130.31 | 126.97 |
| 005-606-8412 | M2 Machine Gun Cal 50     |        | 72.96  | 114.58 | 178.81 |    |       |    |    |        |        |
| 005-670-7670 | M1 Carbine Cal 30         | 7.33   | 13.79  |        | 16.94  |    |       |    |    | 24.85  |        |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE               | FY 66   |         |         |        |        | FY 71 |    |    |    |    | FY 72 |    |    |    |        |
|---------------|----------------------------|---------|---------|---------|--------|--------|-------|----|----|----|----|-------|----|----|----|--------|
|               |                            | 67      | 68      | 69      | 70     | 71     | 67    | 68 | 69 | 70 | 71 | 67    | 68 | 69 | 70 | 71     |
| 1005-670-7675 | M2 Carbine Cal 30          | 32.18   | 46.20   | 29.39   | 28.06  | 30.76  |       |    |    |    |    |       |    |    |    |        |
| 1005-672-1643 | M1919A4 Machine Gun Cal 30 | 162.67  | 134.90  | 87.47   |        |        |       |    |    |    |    |       |    |    |    |        |
| 1005-672-1649 | M1919A6 Machine Gun Cal 30 | 164.87  | 144.55  | 140.82  | 160.59 |        |       |    |    |    |    |       |    |    |    |        |
| 1005-672-1771 | M3A1 Submachinegun Cal 45  | 27.00   | 23.97   | 33.16   |        |        |       |    |    |    |    |       |    |    |    |        |
| 1005-673-4750 | M55 Machine Gun Mount      | 3150.24 | 3054.57 | 4137.52 |        |        |       |    |    |    |    |       |    |    |    |        |
| 1005-673-7965 | M1911A1 Pistol             | 27.87   | 24.08   | 18.82   | 31.12  | 18.48  |       |    |    |    |    |       |    |    |    |        |
| 1005-674-1309 | M1918A2 Rifle Cal 30       | 133.88  | 163.68  | 124.82  | 145.27 | 139.10 |       |    |    |    |    |       |    |    |    |        |
| 1005-674-1425 | M1 Rifle Cal 30            | 34.01   | 40.23   |         |        |        |       |    |    |    |    |       |    |    |    |        |
| 1005-674-1431 | M1D Rifle Cal 30           |         | 195.88  | 184.83  |        | 86.57  |       |    |    |    |    |       |    |    |    |        |
| 1005-678-9828 | M14NN Rifle 7.62MM         | 135.07  | 146.81  | 360.05  | 129.73 | 123.11 |       |    |    |    |    |       |    |    |    |        |
| 1005-690-2790 | M85 Machine Gun Cal 50     |         |         |         |        |        |       |    |    |    |    |       |    |    |    | 454.23 |
| 1005-693-4854 | M2 Machine Gun             | 175.16  | 217.54  | 173.53  | 22.08  | 133.88 |       |    |    |    |    |       |    |    |    |        |
| 1005-704-6650 | Machine Gun Mount          | 52.05   | 66.78   | 55.81   | 62.01  | 63.01  |       |    |    |    |    |       |    |    |    |        |
| 1005-710-5599 | M122 Mount Tripod          |         | 57.88   | 81.57   | 75.73  | 81.79  |       |    |    |    |    |       |    |    |    | 87.16  |
| 1005-711-5031 | M49 Ring Mount             |         | 130.28  | 77.46   | 116.82 |        |       |    |    |    |    |       |    |    |    |        |
| 1005-716-2946 | M37 Machine Gun Cal 30     |         |         |         | 113.20 |        |       |    |    |    |    |       |    |    |    |        |
| 1005-726-5636 | M2 Machine Gun Cal 50 HB   |         |         |         |        |        |       |    |    |    |    |       |    |    |    | 152.94 |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE            | ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)<br>TO OVERHAUL IN FY 73 DOLLARS |           |           |           |           |               |           |
|---------------|-------------------------|---|-----------|-----------|-----------|-----------|---------------|-----------|
|               |                         | <u>FY 66</u>  | <u>67</u> | <u>68</u> | <u>69</u> | <u>70</u> | <u>71</u>     | <u>72</u> |
| 1005-726-5687 | Revolver Cal 38         | 31.24   | 26.24     | 47.04     |           | 31.29     |               |           |
| 1005-726-5786 | Revolver Cal 38         |   | 27.12     | 31.12     |           | 24.67     |               |           |
| 1005-736-4875 | AA Mount Machine Gun    | 255.07  | 195.24    | 253.91    | 111.77    | 185.18    | 193.66        |           |
| 1005-834-6119 | AA Mount Machine Gun    | 268.66  | 71.60     | 221.09    | 218.83    |           |               |           |
| 1005-836-7286 | Machine Gun Mount       |   | 119.92    | 101.16    |           |           |               |           |
| 1005-840-3758 | M13 Rifle Cal 22        | 26.91   | 37.75     | 24.94     | 24.78     |           |               |           |
| 1005-854-4463 | M142 Mount Machine Gun  |   | 81.51     | 42.82     | 52.89     |           |               |           |
| 1005-869-8816 | M73 Machine Gun 7.62MM  |   |           | 412.70    | 377.17    |           | 289.27        | 290.70    |
| 1005-890-2610 | M66 Ring Mount          |   |           |           |           |           | <b>275.74</b> |           |
| 1005-953-9073 | M2 Armament Subsystem   |   |           | 848.69    |           |           |               |           |
| 1005-957-3893 | M2 Machine Gun Cal 50   |   |           |           |           |           |               | 122.22    |
| 1005-973-0375 | M60C Machine Gun 7.62MM | 107.97  | 89.97     | 128.28    | 166.50    |           |               |           |
| 1005-999-8194 | M27 Armament Subsystem  |   |           | 5953      |           |           |               |           |

ANNUAL AVERAGE UNIT COSTS (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE                | ANNUAL AVERAGE UNIT COSTS (EXCLUDING UNFUNDED PARTS)<br>TO OVERHAUL IN FY 73 DOLLARS |        |        |        |        |        |
|---------------|-----------------------------|--|--------|--------|--------|--------|--------|
|               |                             | 67   | 68     | 69     | 70     | 71     | 72     |
| 1010-322-9737 | M18 Recoilless Rifle 57MM   | 184.18   | 227.00 | 237.62 | 277.86 | 275.53 | 317.62 |
| 1010-322-9739 | M18A1 Recoilless Rifle 57MM | 202.70   | 204.23 |        | 283.72 | 326.04 | 278.14 |
| 1010-673-2006 | M2 Mortar 60MM              | 138.66   |        |        |        | 152.64 | 213.32 |
| 1010-673-2010 | M19 Mortar 60MM             |  |        |        |        | 222.39 |        |
| 1010-691-1382 | M79 Grenade Launcher 40MM   | 78.21  |        |        |        |        |        |

**ANNUAL AVERAGE UNIT COSTS (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS**

| FSN          | NOMENCLATURE                 | FY 73 DOLLARS |         |         |         |         |         |
|--------------|------------------------------|---------------|---------|---------|---------|---------|---------|
|              |                              | 66            | 67      | 68      | 69      | 70      |         |
| 015-073-5367 | M37 Recoil Mechanism         |               | 1712.20 |         | 2644.43 | 2719.65 | 2890.86 |
| 015-086-8164 | M102 Howitzer 105MM          |               |         |         |         |         | 8764.64 |
| 015-099-8248 | M2A5 Recoil Mechanism        | 949.44        | 1722.59 | 1630.12 | 1493.90 | 1647.06 | 1225.40 |
| 015-099-8249 | M2A4 Recoil Mechanism        | 1544.28       | 1645.79 | 1738.43 | 1270.27 | 1337.79 | 1266.52 |
| 015-133-8484 | M40A2 Recoilless Rifle 106MM |               |         |         |         |         | 834.36  |
| 015-322-9720 | M30 Mortar 107MM             | 628.58        | 683.12  | 635.30  |         | 444.45  |         |
| 015-322-9752 | M101A1 Howitzer 105MM        | 2708.28       | 4309.96 | 4206.29 |         | 5741.11 | 5413.06 |
| 015-348-4923 | M40A1 Recoilless Rifle 106MM | 643.32        | 602.68  | 659.18  |         | 981.01  |         |
| 015-505-5285 | Equilibrator                 | 8193.80       | 1502.01 | 2215.95 |         | 1713.66 |         |
| 015-511-9124 | M92 Recoilless Rifle Mount   |               |         | 516.89  |         | 608.98  |         |
| 015-657-7534 | M67 Recoilless Rifle 90MM    | 245.31        | 186.01  | 219.29  |         | 226.21  | 243.85  |
| 015-691-1289 | M20 Recoilless Rifle 75MM    | 434.03        | 276.60  |         |         |         | 267.51  |
| 015-714-1822 | M1A6 Recoil Mechanism        | 1204.78       |         |         |         |         |         |
| 015-736-3974 | M87 Mount                    |               |         |         | 637.48  |         |         |
| 015-840-1836 | M29 Mortar 81MM              | 608.58        | 381.08  | 412.53  |         | 643.29  | 419.97  |

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ANNUAL AVERAGE UNIT COSTS (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE                    | FY 66    |          |         |          |                   |
|---------------|---------------------------------|----------|----------|---------|----------|-------------------|
|               |                                 | 67       | 68       | 69      | 70       | 71                |
| 1025-050-8922 | Equilibrator                    | 1091.00  | 944.55   | 1022.00 | 815.56   |                   |
| 1025-322-9755 | M114 Howitzer 155MM             | 4531.00  | 7840.00  | 5889.00 | 10055.00 |                   |
| 1025-322-9768 | M114A1 Howitzer 155MM           | 5265.00  | 5800.00  | 7113.00 | 12398.00 | 10998.00 14996.00 |
| 1025-653-7593 | Equilibrator                    | 242.22   | 121.91   | 157.44  | 93.10    |                   |
| 1025-713-3221 | Equilibrator                    |          |          | 548.64  | 718.36   |                   |
| 1025-714-8074 | M6A2 Recoil Mechanism           |          |          |         | 2345.00  | 2497.00 2988.00   |
| 1025-863-5613 | M158 Mount Assembly             | 3769.00  | 6282.00  |         | 6104.00  | 6520.00           |
| 1025-994-8931 | M123A1 Howitzer 155MM           |          |          |         | 7083.00  | 9746.00           |
| 1030-322-9788 | M115 Howitzer 8 in.             | 18214.00 | 17369.00 | 8088.00 | 6308.00  | 8582.00           |
| 1030-714-1826 | M4A1 Recoil Mechanism           |          |          |         |          | 5037.00           |
| 1055-840-1842 | M20A1B1 Rocket Launcher 3.5 in. | 82.66    | 93.50    |         | 59.14    |                   |
| 1090-933-6701 | M28 Armament Subsystem          |          |          |         |          | 14305.00          |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| NSN           | NOMENCLATURE               | FY 66   |         |        |         |         | TO OVERHAUL IN FY 73 DOLLARS |  |  |  |  |
|---------------|----------------------------|---------|---------|--------|---------|---------|------------------------------|--|--|--|--|
|               |                            | 67      | 68      | 69     | 70      | 71      | 72                           |  |  |  |  |
| 1220-344-4678 | M13 Blastic Computer       | 466.44  | 426.26  | 395.19 |         |         |                              |  |  |  |  |
| 1220-448-0131 | M18 Gun Direction Computer | 8806.00 |         |        | 6766.00 | 6609.00 |                              |  |  |  |  |
| 1220-546-9715 | M13A1 Blastic Computer     |         | 328.26  | 479.43 | 335.74  |         |                              |  |  |  |  |
| 1220-572-8738 | M16 Computer               |         |         |        | 789.18  |         |                              |  |  |  |  |
| 1220-676-2162 | M13A1D Blastic Computer    | 903.72  | 426.91  |        | 565.57  | 480.13  | 442.55                       |  |  |  |  |
| 1220-766-5137 | M38 Sight Computer         | 418.24  | 1121.97 | 440.82 |         |         |                              |  |  |  |  |
| 1220-766-5139 | Computer Assy              |         | 540.68  | 295.79 | 579.30  | 669.79  |                              |  |  |  |  |
| 1220-774-9445 | M13A1C Ballistic Computer  | 179.80  | 382.19  | 328.61 | 413.46  |         |                              |  |  |  |  |
| 1220-856-9454 | M13A2 Ballistic Computer   |         |         | 385.85 | 445.04  | 339.80  | 463.11                       |  |  |  |  |
| 1220-870-6274 | M13B1C Ballistic Computer  | 555.90  | 358.25  | 311.70 | 303.25  | 441.02  | 331.18                       |  |  |  |  |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE               | FY 66   |         |        |        |        | FY 73 DOLLARS |  |  |  |  |
|---------------|----------------------------|---------|---------|--------|--------|--------|---------------|--|--|--|--|
|               |                            | 67      | 68      | 69     | 70     | 71     | 72            |  |  |  |  |
| 1240-056-4854 | Infinity Sight             |         |         |        |        | 117.04 | 91.06         |  |  |  |  |
| 1240-076-0066 | M113 Panoramic Telescope   | 2460.00 | 1831.00 |        | 808.00 | 837.00 | 879.00        |  |  |  |  |
| 1240-300-6601 | T150E1 Telescope           | 379.68  | 320.99  | 360.15 | 429.85 |        | 405.03        |  |  |  |  |
| 1240-300-7989 | M34A7 Sight Unit           | 207.01  | 173.74  |        | 141.00 |        | 174.52        |  |  |  |  |
| 1240-344-4632 | M12A7K Panoramic Telescope | 154.88  | 181.86  | 150.63 |        | 169.73 |               |  |  |  |  |
| 1240-344-4633 | M12A7H Panoramic Telescope | 202.66  | 184.32  | 226.52 | 146.34 | 192.48 | 171.50        |  |  |  |  |
| 1240-344-4644 | M23 Periscope              | 106.90  | 66.93   |        | 59.69  |        | 78.03         |  |  |  |  |
| 1240-344-4645 | M20A1 Periscope            | 148.80  | 241.63  | 180.02 | 127.89 | 174.48 |               |  |  |  |  |
| 1240-344-4646 | M97C Telescope             | 200.15  | 110.88  | 123.42 |        |        |               |  |  |  |  |
| 1240-344-4654 | M13 Rangefinder            | 996.03  | 886.54  |        |        | 953.47 |               |  |  |  |  |
| 1240-344-4668 | M100 Panoramic Telescope   | 687.31  | 591.44  | 618.33 | 494.70 |        |               |  |  |  |  |
| 1240-344-4672 | M93 Telescope              | 183.01  | 394.40  | 236.98 |        |        |               |  |  |  |  |
| 1240-344-4674 | M99C Telescope             |         | 490.41  | 488.35 |        |        |               |  |  |  |  |
| 1240-346-8735 | M28 Sight Periscope        | 133.53  | 148.25  |        |        |        |               |  |  |  |  |
| 1240-360-1593 | M97 Telescope              | 179.20  | 224.43  | 162.14 | 160.02 | 182.73 |               |  |  |  |  |
| 1240-546-6339 | M92D Elbow Telescope       | 81.54   | 65.57   |        | 58.29  | 55.41  |               |  |  |  |  |
| 1240-546-9580 | M20A3 Periscope            | 229.49  | 156.67  | 137.62 | 167.67 |        | 266.83        |  |  |  |  |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE            | FY 73 DOLLARS |         |        |         |         |         |
|---------------|-------------------------|---------------|---------|--------|---------|---------|---------|
|               |                         | 67            | 68      | 69     | 70      | 71      |         |
| 1240-601-4065 | M90F Telescope          | 143.65        | 60.83   | 110.02 |         |         | 111.20  |
| 1240-608-2062 | M13A1 Rangefinder       | 1762.00       |         |        | 965.00  | 1184.00 |         |
| 1240-654-3811 | M15 Tripod Mount        |               |         |        | 24.40   |         |         |
| 1240-657-4387 | M17 Tripod Mount        | 76.36         | 113.36  |        | 67.84   |         | 94.10   |
| 1240-676-2173 | M17C Rangefinder        |               | 1735.63 | 771.95 | 1198.29 | 1156.09 | 1120.44 |
| 1240-676-2174 | M31 Periscope           | 310.42        | 281.44  | 355.13 | 260.62  |         |         |
| 1240-676-2178 | M105C Telescope         | 336.93        |         |        |         | 350.29  |         |
| 1240-676-2181 | M44C Sight Infinity     | 51.32         | 54.67   | 49.33  | 52.32   | 56.42   | 50.71   |
| 1240-706-0794 | M28C Sight Periscope    | 149.83        | 148.34  | 173.38 | 176.64  |         |         |
| 1240-716-2947 | Sight Reflecting        | 35.80         | 16.76   |        | 27.79   |         |         |
| 1240-732-1469 | M97H Telescope          | 191.75        | 151.02  | 174.05 | 169.55  | 158.46  |         |
| 1240-757-9927 | M4 Sight                | 49.51         | 47.24   |        | 53.15   |         |         |
| 1240-757-9933 | M1 Panoramic Telescope  | 107.58        | 206.38  |        |         |         |         |
| 1240-757-9935 | M12 Panoramic Telescope |               |         |        |         | 172.60  | 252.10  |
| 1240-757-5975 | M62 Elbow Telescope     | 35.44         | 63.17   | 58.41  | 78.44   |         |         |
| 1240-759-7757 | M15A1 Periscope         | 95.26         | 276.73  | 182.56 |         |         | 283.57  |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FS#           | NOMENCLATURE               | FY 66  |        |        |        |        | FY 72  |       |    |    |       |
|---------------|----------------------------|--------|--------|--------|--------|--------|--------|-------|----|----|-------|
|               |                            | 67     | 68     | 69     | 70     | 71     | 72     | 73    | 74 | 75 |       |
| 1240-759-7774 | M84 Telescope              | 45.16  | 46.46  | 35.41  |        |        |        |       |    |    |       |
| 1240-759-7781 | M16A1D Elbow Telescope     | 78.18  | 110.92 | 89.44  | 86.03  | 87.52  |        |       |    |    |       |
| 1240-759-7782 | M16A1E Elbow Telescope     |        |        |        | 111.08 | 115.75 |        |       |    |    |       |
| 1240-759-7783 | M16A1G Elbow Telescope     |        |        |        |        | 76.21  |        |       |    |    |       |
| 1240-759-7852 | M86F Telescope             | 80.66  | 89.75  | 66.89  | 94.94  | 79.29  |        |       |    |    |       |
| 1240-759-7853 | M90D Telescope             | 88.45  | 80.80  |        |        | 74.92  |        |       |    |    |       |
| 1240-759-7854 | M34 Sight Unit             | 206.55 | 226.52 | 252.34 | 153.94 | 171.79 |        |       |    |    |       |
| 1240-762-9333 | M19 Articulated Telescope  |        |        |        |        | 272.24 |        |       |    |    |       |
| 1240-764-1667 | M105 Articulated Telescope | 444.26 | 248.49 | 265.91 | 240.20 |        |        |       |    |    |       |
| 1240-764-7931 | M34A1 Sight Unit           | 137.81 | 182.43 | 184.99 | 181.98 |        |        |       |    |    |       |
| 1240-764-8288 | M24C Sight Unit            | 80.54  |        |        | 84.31  | 55.36  |        |       |    |    | 80.85 |
| 1240-764-8432 | M90C Telescope             |        |        |        |        |        |        |       |    |    |       |
| 1240-768-7260 | M12A7C Panoramic Telescope | 201.69 | 148.47 | 196.63 | 339.74 | 185.46 | 167.19 |       |    |    |       |
| 1240-768-7261 | M12A7D Panoramic Telescope |        |        |        |        | 154.56 |        |       |    |    |       |
| 1240-768-7263 | M12A7F Panoramic Telescope |        |        |        |        | 166.63 |        |       |    |    |       |
| 1240-798-1236 | M103 Telescope             | 42.35  |        |        |        | 72.67  | 68.36  | 77.70 |    |    |       |



ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE               | FY 66  |        |         |        |        |
|---------------|----------------------------|--------|--------|---------|--------|--------|
|               |                            | 67     | 68     | 69      | 70     | 71     |
| 1240-974-6433 | M116D Elbow Telescope      |        |        |         |        | 91.59  |
| 1240-977-5586 | M24 Rangefinder            |        |        | 1843.29 |        |        |
| 1240-980-1745 | M105D Articulate Telescope |        | 491.12 | 250.64  | 301.38 | 373.41 |
| 1240-980-9288 | M32 Periscope              |        | 489.86 | 573.37  | 561.60 | 579.61 |
| 1240-980-9290 | M34 Periscope              | 401.78 |        |         | 602.30 | 484.22 |
| 1240-980-9291 | M36 Periscope              |        |        |         | 600.95 | 817.35 |
| 1240-990-1851 | M28D Periscope             |        |        |         | 145.80 |        |
| 1290-346-8184 | M24 Tripod Mount           | 31.44  | 44.66  | 53.42   | 45.42  | 35.88  |
| 1290-652-8560 | M5 Tripod Mount            | 44.18  | 58.20  | 47.76   | 54.45  | 34.91  |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUHDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE                    | FY 66    |          |          |          |          | FY 73 DOLLARS |  |  |  |  |
|---------------|---------------------------------|----------|----------|----------|----------|----------|---------------|--|--|--|--|
|               |                                 | 67       | 68       | 69       | 70       | 71       | 72            |  |  |  |  |
| 2350-049-4791 | M42A1 Antiaircraft SP Artillery | 30669.00 | 31642.00 | 33449.00 | 31866.00 | 23608.00 |               |  |  |  |  |
| 2350-301-8456 | M48A1 Tank 90MM                 | 36112.00 | 39746.00 | 41734.00 |          |          |               |  |  |  |  |
| 2350-436-6635 | M107 SP Gun 175MM               |          |          |          | 44098.00 | 52475.00 |               |  |  |  |  |
| 2350-439-6242 | M578 Recovery Vehicle           |          | 33988.00 |          |          | 43015.00 |               |  |  |  |  |
| 2350-439-6243 | M110 SP Howitzer 8 in           |          | 45516.00 |          | 49047.00 | 52515.00 |               |  |  |  |  |
| 2350-440-8810 | M108 SP Howitzer 105MM          | 28867.00 | 44094.00 | 34750.00 | 41709.00 |          |               |  |  |  |  |
| 2350-440-8811 | M109 SP Howitzer 155MM          |          | 50433.00 | 38070.00 | 57619.00 | 42304.00 |               |  |  |  |  |
| 2350-563-7966 | M44A1 SP Howitzer 155MM         | 35213.00 | 30565.00 | 32113.00 |          |          |               |  |  |  |  |
| 2350-563-7967 | M52A1 SP Howitzer 105MM         | 25941.00 | 25787.00 | 40648.00 | 33783.00 | 35208.00 |               |  |  |  |  |
| 2350-566-4087 | M41A3 Tank 76MM                 | 34806.00 | 35173.00 | 32412.00 |          | 32941.00 |               |  |  |  |  |
| 2350-678-5772 | M88 Recovery Vehicle            | 33418.00 | 40613.00 | 55418.00 | 40558.00 | 43502.00 |               |  |  |  |  |
| 2350-678-5773 | M60 Tank 105MM                  | 35083.00 | 62673.00 |          | 40204.00 | 42324.00 |               |  |  |  |  |
| 2350-679-4812 | M48A2C Tank 90MM                | 38689.00 | 56575.00 | 35514.00 | 40571.00 |          |               |  |  |  |  |
| 2350-736-4202 | M48 Tank 90MM                   | 45004.00 | 31790.00 | 39439.00 | 33648.00 |          |               |  |  |  |  |
| 2350-738-6846 | M41 Tank 76MM                   |          |          | 32045.00 |          |          |               |  |  |  |  |
| 2350-739-3840 | M53 Gun 155MM                   |          | 63555.00 | 59170.00 |          |          |               |  |  |  |  |

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE                  | FY 73 DOLLARS |           |          |          |          |          |
|---------------|-------------------------------|---------------|-----------|----------|----------|----------|----------|
|               |                               | 67            | 68        | 69       | 70       | 71       |          |
| 2350-756-8497 | M60A1 Tank 105MM              | 30210.00      | 65,000.00 | 57442.00 | 36771.00 | 41823.00 | 44740.00 |
| 2350-795-1797 | M728 Engineering Vehicle      |               |           |          |          |          | 40458.00 |
| 2350-796-8000 | M42 Antiaircraft SP Artillery |               |           |          | 28215.00 | 36674.00 |          |
| 2350-835-8713 | M51 Recovery Vehicle          | 73775.00      | 70708.00  |          |          | 69136.00 |          |
| 2350-873-5408 | M551 Armored Recon Vehicle    |               |           |          |          | 51245.00 | 48766.00 |
| 2350-895-9154 | M48A3 Tank 90MM               | 37650.00      | 41468.00  | 40054.00 | 43517.00 |          |          |

**ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS**

| <u>FSN</u>    | <u>NOMENCLATURE</u>       | <u>FY 66</u> | <u>67</u> | <u>68</u> | <u>69</u> | <u>70</u> | <u>71</u> | <u>72</u> |
|---------------|---------------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 6650-344-4647 | M24 Periscope             | 179.32       | 149.49    | 255.94    | 174.86    | 264.09    | 156.64    |           |
| 6650-530-0959 | M15A1 Binocular           |              |           |           |           | 94.43     |           |           |
| 6650-530-0960 | M49 Observation Telescope | 132.10       | 61.86     |           | 55.13     |           |           |           |
| 6650-530-0973 | M13A1 Binocular           | 121.46       | 103.97    |           | 99.74     |           |           | 99.62     |
| 6650-530-0974 | M17A1 Binocular           | 101.44       | 95.67     |           | 92.70     |           | 98.72     |           |
| 6650-670-2491 | M3 Binocular              | 130.10       | 103.14    | 107.65    | 108.24    | 120.97    | 85.39     | 94.03     |
| 6650-670-2508 | M13 Binocular             | 137.77       |           |           | 125.99    | 87.45     |           |           |
| 6650-670-2514 | M16 binocular             |              | 59.07     | 89.90     |           | 92.94     | 121.18    | 112.48    |
| 6650-678-5577 | M65 BC Telescope          | 371.04       | 300.96    | 327.88    |           | 360.56    | 480.03    |           |
| 6650-762-9336 | XM48 Periscope            |              |           |           |           |           | 514.83    | 645.79    |
| 6650-765-2971 | M19 Periscope             | 160.41       | 222.05    | 273.94    | 169.08    | 227.13    | 130.95    |           |
| 6650-788-5464 | XM47 Periscope            |              |           |           |           |           | 340.16    |           |
| 6650-863-5657 | M18 Infrared Binocular    |              | 226.32    | 254.17    |           | 371.34    | 409.77    | 373.03    |

2. OCONUS Depot Overhaul

ANNUAL AVERAGE UNIT COST (EXCLUDING UNFUNDED PARTS)  
TO OVERHAUL IN FY 73 DOLLARS

| FSN           | NOMENCLATURE              | FY 66 |    |    |          |          |
|---------------|---------------------------|-------|----|----|----------|----------|
|               |                           | 67    | 68 | 69 | 70       | 71       |
| 1015-322-9720 | M30 Mortar 107 mm         |       |    |    |          | 1081.45  |
| 1015-322-9752 | M191A1 Howitzer 105 mm    |       |    |    |          | 6521.19  |
| 1015-348-4923 | M40A1 Recoilless Rifle    |       |    |    |          | 978.28   |
| 1240-360-1593 | M97 Telescope             |       |    |    | 87.44    |          |
| 2350-436-6635 | M107 SP Gun 175 mm        |       |    |    |          | 25257.07 |
| 2350-439-6243 | M110 SP Howitzer 8"       |       |    |    |          | 29404.07 |
| 2350-440-8810 | M108 SP Howitzer 105 mm   |       |    |    |          | 27535.05 |
| 2350-440-8811 | M109 SP Howitzer 155 mm   |       |    |    |          | 25792.96 |
| 2350-678-5772 | M88 Recovery Vehicle      |       |    |    |          | 27917.91 |
| 2350-678-5773 | M60 Tank 105 mm           |       |    |    |          | 36632.88 |
| 2350-756-8497 | M60A1 Tank 105 mm         |       |    |    |          | 37524.11 |
| 2350-895-9154 | M48A3 Tank 90 mm          |       |    |    | 35010.87 |          |
| 6650-530-0960 | M49 Observation Telescope |       |    |    |          | 89.16    |
| 6650-670-2491 | M3 Binocular              |       |    |    | 73.36    |          |
| 6650-863-5657 | M18 Infrared Binocular    |       |    |    |          | 225.00   |

APPENDIX C

INFLATION/PRICE ESCALATION INDICES

All overhaul/rebuild costs have been adjusted to FY 73 dollars by using the following indices from HQ, WECOM Cost Analysis Study, "Inflation/Price Escalation Instructions for WECOM Cost Estimating (Revised Edition No. 2)," October 1971.

| <u>FY</u> | <u>Composite Ord<br/>&amp; Accessories</u> |
|-----------|--|
| 66        | 74.7                                       |
| 67        | 77.5                                       |
| 68        | 80.9                                       |
| 69        | 85.0                                       |
| 70        | 91.7                                       |
| 71        | 95.6                                       |
| 72        | 100.0                                      |
| 73        | 102.8                                      |

Example:

M105 Articulated Telescope PSN 1240-764-1667

The average cost to overhaul the M105 Telescope in FY 66 was \$322.82 in FY 66 dollars. To arrive at the FY 73 cost (\$444.76) listed for FY 66 work in Appendix B the following calculation is made.

$$\$322.82 \cdot 102.8 \div 74.7 = \$444.26$$

Therefore to escalate to FY 73 dollars, multiply the prior year cost by the FY 73 factor and divide by the prior year factor. Inversely to adjust FY 73 dollars to prior year dollars, multiply the FY 73 cost by the prior year factor and divide by the FY 73 factor.